HUSSMANN®

Low Temperature

Single Deck Wall & Island Merchandisers with Glass Lids

Installation & Operation Manual

Shipped With Merchandiser Data Sheets

IMPORTANT

Keep in store for future reference!

P/N 0524393_F
Excel Series
June 2014

English 052439
Spanish 0532414
French 0532415

BEFORE YOU BEGIN

Read these instructions completely and carefully.

⚠ CAUTION

Always wear long pants, a long-sleeve shirt, protective boots or shoes, gloves and safety glasses when handling glass.

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IMPORTANT
KEEP IN STORE FOR FUTURE REFERENCE
Quality that sets industry standards!

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WARRANTY

* *

ANSI Z535.5 DEFINITIONS

• DANGER – Indicate[s] a hazardous situation which, if not avoided, will result in death or serious injury.

• WARNING – Indicate[s] a hazardous situation which, if not avoided, could result in death or serious injury.

• CAUTION – Indicate[s] a hazardous situation which, if not avoided, could result in minor or moderate injury.

• NOTICE – *Not related to personal injury –* Indicates[s] situations, which if not avoided, could result in damage to equipment.

REVISION HISTORY

REVISION F

1. FWGH and FWGEH Load Limit Profile
2. FWGH and FWGEH Bolt Location Drawings Page1-10, 1-12
3. Added Replacing Product Side Heater Sec 6
4. Flue Glass for FWGH 1-22

REVISION E

1. Added FI, FN two sided lids drawing, Page 1-3
2. Changed Glass Part Numbers, Page 4-4, 4-5, 4-6
3. Changed wording of Step 4, Page 4-8
4. Added Replacing Interior Panels and Louvers, page 1-15.
5. Added coil cleaning, page 6-3.
6. Revised Step 6, page 7-8.

REVISION D

1. Updated Warranty Page. Replaced missing pages.

REVISION C

1. Added silicone caulk sealing, Page 4-7

REVISION B

1. Added coil cleaning, page 6-3.
2. Removed adjustable legs throughout.

ORIGINAL ISSUE — May 2012

EXCEL INSTALLATION

TOOL LIST

Unloading From Trailer:

Lever Bar (also know as a Mule, Johnson Bar, J-bar, Lever Dolly, and pry lever)
Moving Dolly (two for 12-ft merchandiser)

Setting Merchandiser Line-Up:

Level, 4 ft suggested
Ratchet
1/4 in. Socket
5/16 in. Socket
1/2 in. Socket
Battery Drill/Screw Gun
Caulking Gun
10 in. Adjustable Crescent Wrench

INSTALLATION

NSF CERTIFICATION

These merchandisers are manufactured to meet ANSI / National Sanitation Foundation (NSF®) Standard #7 requirements. Proper installation is required to maintain certification. Near the serial plate, each merchandiser carries a label identifying the type of application for which the merchandiser was certified.

ANSI/NSF-7 Type I – Display Refrigerator / Freezer
Intended for 75°F / 55%RH Ambient Application

ANSI/NSF-7 Type II – Display Refrigerator / Freezer
Intended for 80°F / 55%RH Ambient Application

ANSI/NSF-7 – Display Refrigerator
Intended for Bulk Produce

LOCATION

These merchandisers are designed for displaying products in air conditioned stores where temperature is maintained at or below the ANSI / NSF-7 specified level and relative humidity is maintained at or below 55%.

Placing refrigerated merchandisers in direct sunlight, near hot tables or near other heat sources could impair their efficiency.

Like other merchandisers, these are sensitive to air disturbances. Air currents passing around merchandisers will seriously impair their operation. Do NOT allow air conditioning, electric fans, open doors or windows, etc. to create air currents around the merchandisers.

Product should always be maintained at proper temperature. This means that from the time the product is received, through storage, preparation and display, the temperature of the product must be controlled to maximize the life of the product.

Excel wall models have internal frames. A 3 inch (76 mm) space between the rear of the merchandiser and wall must be maintained for air circulation. However, in high ambient conditions, sweating may still occur. If this happens install a method of forced ventilation such as a fan ventilation kit.

Wide Island Fronts

BE SURE TO POSITION WIDE ISLAND MERCHANDISER FRONTS PROPERLY.

The front of a wide island merchandiser is readily identified by the location of the serial plate. Since all electrical and refrigeration connections will be made at the front side, the fronts will need to be positioned according to the store plan layout.

SHIPPING DAMAGE

All equipment should be thoroughly examined for shipping damage before and during unloading.

This equipment has been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports and/or claim forms.

Apparent Loss or Damage

If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise, carrier may refuse claim.

Concealed Loss or Damage

When loss or damage is not apparent until after equipment is uncrated, retain all packing materials and submit a written request to the carrier for inspection, within 15 days.

UNLOADING

Improper handling may cause damage to the merchandiser when unloading.
To avoid damage:

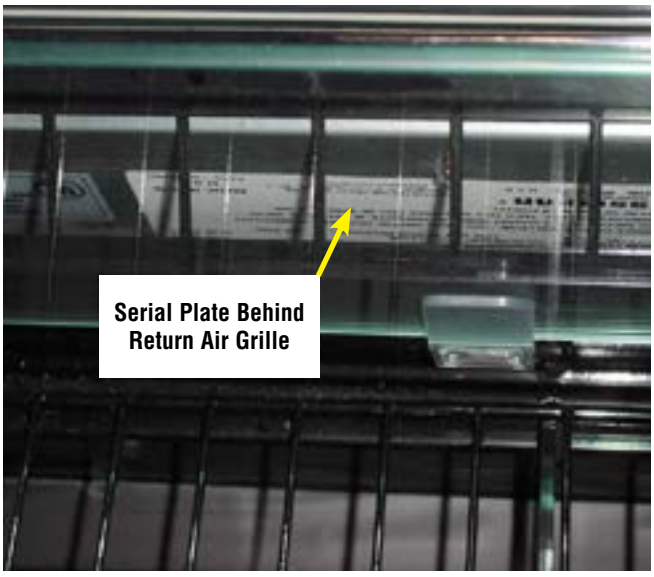
1. Do not drag the merchandiser out of the trailer. Use a Johnson bar (mule).

2. Use one dolly to remove the merchandiser from the trailer.

3. Use two dollies to move cases to lineup.

SERIAL PLATE LOCATION

Direct a flashlight through the return air grille to locate the serial plate. BE SURE TO POSITION WIDE ISLAND MERCHANDISER FRONTS PROPERLY. The front of a wide island merchandiser is readily identified by the location of the serial plate affixed to the inside of the left front assembly. Since all electrical and refrigeration connections will be made at the front side, the fronts will need to be positioned according to the store plan layout.A secondary serial number sticker is put on the exterior nosing on the discharge side. It provides the model, serial number and manufacture date.



EXTERIOR LOADING

Do NOT walk on top of merchandiser because damage to the merchandiser and serious personal injury could occur. **THEY ARE NOT STRUCTURALLY DESIGNED TO SUPPORT EXCESSIVE EXTERNAL LOADING** such as the weight of a person. Do not place heavy objects on the merchandiser.

MERCHANDISERS SHIPPED WITH END INSTALLED

Be careful not to damage the factory installed end while moving the merchandiser. Make sure that lifting tools are positioned past the end and beneath the support bar.

SHIPPING BRACES

Move the merchandiser as close as possible to its permanent location and then remove shipping braces. Check for damage before discarding packaging. Remove end braces, and discard hardware. Exercise caution at all times when moving merchandisers with up-tilt riders. They are top-heavy and should never be left in the vertical position.

⚠ CAUTION

AVOID SERIOUS PERSONAL INJURY. Up-tilt riders are top-heavy and may fall over. Never leave uptilt rider in vertical position. Use caution when moving.

Do not remove shipping braces until the merchandisers are positioned for installation.

Do not stand or walk on top of merchandiser, because falling off could cause personal injury.

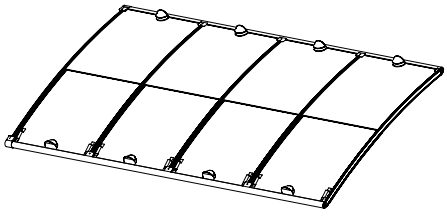
UNPACK LID FRAMES AND GLASS PANES

For all models except FWE and FWEG, the sliding glass lids frame assembly is not installed on the merchandiser. The frame is pre-assembled and wrapped on top of the case. Remove the frame assembly to a safe location, and keep the packaging material that protects it. Remove all separately packed accessories such as kits, shelves, glass lids and price tag molding.

Merchandisers that are used as an end case such as FWE-L and FWEG-L are shipped with a **one-sided** lid kit. **The one-sided lid frame is pre-assembled and mounted to the top of the end merchandiser.**

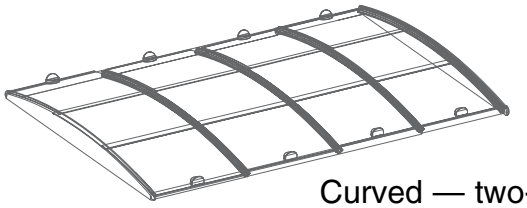
Remove all frame packaging and glass panes from these merchandisers, and set the glass and frames to the side. Use the cardboard packaging as protection on the floor in order to avoid scratches or damage to the product. Wet glass may be slippery. Use caution when handling glass parts.

Two-sided frames should be installed after all refrigeration and electrical work is complete.



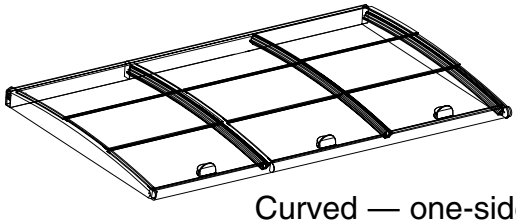
Curved — two-sided

FI-L, FIG-L, FN-L and FNG-L use two-sided lid frames, with 2 glasses (no top center glass)



Curved — two-sided

FW-L and FWG-L use two-sided lid frames.

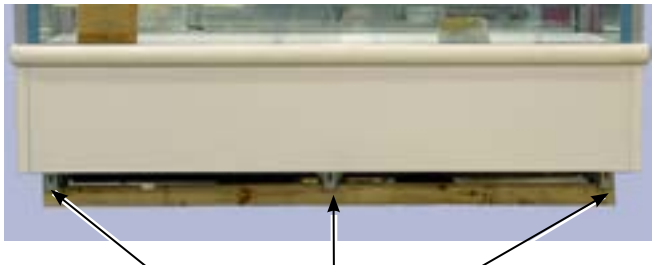


Curved — one-sided

F-L and FG-L are wall cases, and have a one-sided frame. FWE-L and FWEG-L are used as island end cases, and use a one-sided lid frame.

SHIPPING RIDER

Each case is shipped on a rider to protect the factory installed legs, and to make positioning the merchandiser easier. **DO NOT remove the rider until the case has been positioned.** Once the rider is removed, the case must be lifted –NOT PUSHED– to reposition. To remove the rider, remove bolts attaching rider to each leg.



Remove Bolts from Front

MERCHANDISER LEVELING

Merchandisers must be installed level to ensure proper operation of the refrigeration system and to ensure proper drainage of defrost water. During all steps of setting, joining and leveling merchandisers, close attention to position and operation must be maintained.

NOTE: BEGIN LINEUP LEVELING FROM THE HIGHEST POINT OF THE STORE FLOOR.

Preparation

1. Using store blueprints, measure and mark on floor the exact dimensions/locations of the merchandiser footprint. **A three (3) inch space is required behind each wall merchandiser, or lineup of merchandisers to prevent condensation. A three (3) inch space is also required at ends of merchandiser, or merchandiser lineup to prevent condensation.**

2. Snap a chalk line for the front and rear positions of the base legs.

3. Mark the location of each joint from front to back lines.

NOTICE

A 3-inch space is required from walls at rear and ends of merchandiser(s) to prevent condensation.

4. **FLOORS ARE NOT LEVEL!!!** When joining two or more merchandisers, all cases in the lineup must be leveled on the same plane, left to right and front to back. This means that the entire lineup must be brought up to the level of the highest merchandiser in the lineup.

Along the lines previously marked, find the highest point of the floor by:

- Walking the floor and noticing any dips or mounds;
- Using a string level or laser level; and
- Using a transit.

Leveling

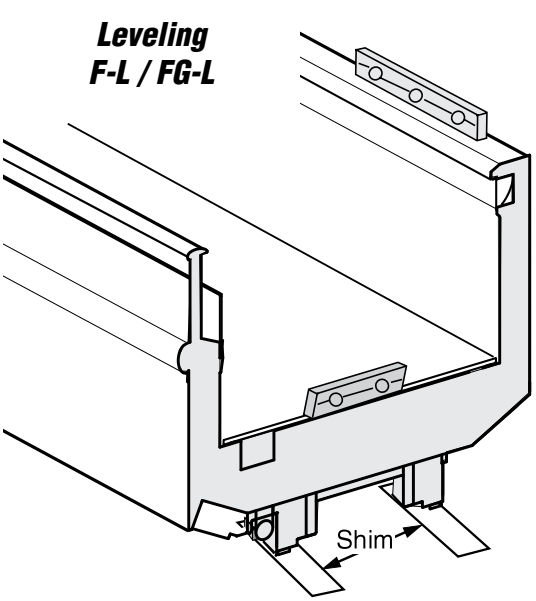
Position the first merchandiser at the highest point on the floor. Work outward from that point to create the merchandiser line-up.

Use a 48 inch (1220 mm) or longer level for end-to-end leveling. The discharge nosing of the merchandiser is a good location for the level at the rear of the merchandiser (center of wide island), and the handrail or return nosing is a good location for the level at the front of the merchandiser. For leveling the merchandiser front-to-rear, a 24 inch (610 mm) level should be placed on the flange of the merchandiser end frame. Suggested level locations are shown in the following illustrations on the next page.

Leveling Wall Merchandisers

Level the case by all four corners. Start at the rear by placing the provided shims as needed under each end of the rear base rail. The shims are long enough to allow adjoining wall cases to be leveled with the same shim. **When the rear of the case is level end-to-end, move to the front of the case.** Use an 18 mm open end wrench to screw down the levelers at each front corner so that the front is also level from end-to-end. At this point, check to see if the case is level front-to-rear. If it is not, add shims until the case is level front-to-rear.

The merchandiser should be solidly supported at least every 4 feet (1220 mm). Once the merchandiser is level, if any gaps are present, shims should be inserted under the rear base rail approximately in line with the center front support legs to support the rear of the case. At the front of the case, add shims under each of the center support legs so that they contact the floor and support the front of the merchandiser.

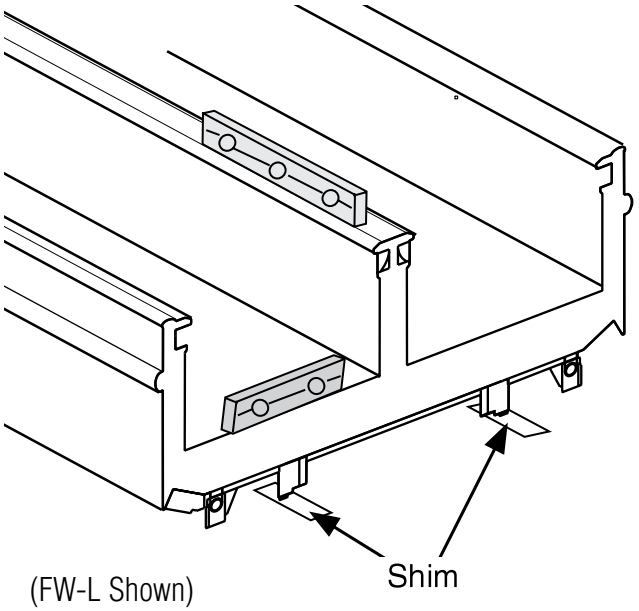


NOTE: Do not place levels on Display Pans or on Racks.

Leveling Narrow, Intermediate, Wide Island or End Merchandisers

Position the first merchandiser at the highest point. Set a long level (4 ft [1220 mm] or more) on top of the discharge air flue. Add shims until the merchandiser is level from end to end and from front to back. Check all 6 legs on 8 ft (2438 mm) merchandisers, or 8 legs on 12 ft (3658 mm) merchandisers.

NOTE: To avoid removing concrete flooring, begin lineup leveling from the highest point of the store floor.



JOINING INSTRUCTIONS

Sectional construction means that two or more merchandisers may be joined in line yielding one long continuous display requiring only one pair of ends.
ALL JOINTS MUST BE AIRTIGHT TO PREVENT FORMATION OF ICE OR CONDENSATION.

Prep Merchandiser
1. Check to be sure that merchandisers are level. Locate Joining Kit and check contents.

2. Remove wire racks and display pan. Before removing interior front and back panels, remove the fasteners holding the retainers for the discharge air louvers. (Lift louvers up and out from the bottom.) Remove any return air flue plex-glass parts. (Lift up on interior panels to remove.) See 1-14 for replacement.
***NOTE*:** FWE and FWEG end merchandisers have joining fasteners inserted in the appropriate locations. Remove nuts and washers from outside of end merchandiser before attempting to join.

Apply Gaskets to Right End
1. Apply the 1⅝ in. (41 mm) gasket around the perimeter of the merchandiser as shown. It must be at the edge. Check to be sure that there are no gaps between gasket and merchandiser.

2. Apply the 1 in. (25 mm) gasket across the end shoe as shown. Each end of the gasket should extend onto the 1⅝ inch gasket but not over. Check to be sure that there are no gaps between merchandiser and gaskets.

3. On narrow and intermediate islands, wall merchandisers, and cases, apply the 1 in. (25 mm) gasket at the top of the discharge and return air flues as shown. On wide islands, apply the 1 in. (25 mm) gasket at the top of return air flues as shown. Apply the 1⅝ in. (41 mm) gasket at the top of the discharge (center) flue as shown.
NOTE: When adding an end merchandiser, apply gaskets to the wide island, not the end merchandiser.

IMPORTANT

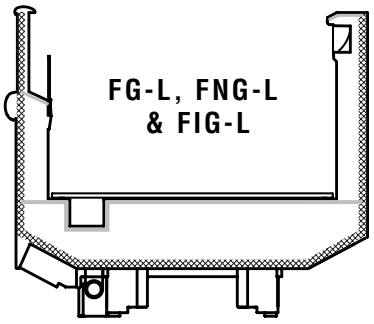
• Do not stretch gasket, especially around corners.

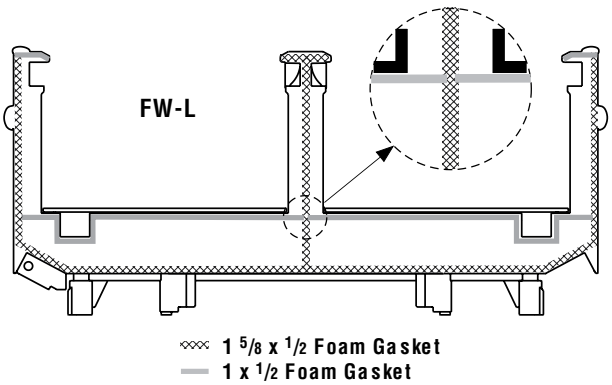
• Do not butt gaskets; always overlap them as shown.

• Remove paper backing after gasket has been applied.

• *Perimeter gasket is* ***required by NSF.***

Lapped Gaskets





JOINING MERCHANDISERS IN LINE

1. Remove and retain any factory-installed fasteners.

2. ***Move merchandisers in lineup as close as possible by pushing or using lever bar (mule).***

3. **Verify upper front panel, front panel, bumper retainer, and top rail alignment *before* joining merchandisers, and shim as necessary. Panels and Top Rail must have equal overhang at each end of merchandiser.**

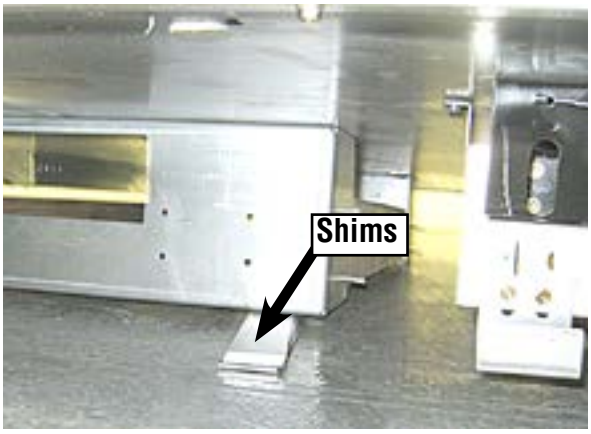
NOTE: **Merchandisers must be leveled before joining.** Verify all top rails, panels and bumper retainers of each merchandiser to be joined align vertically before joining.

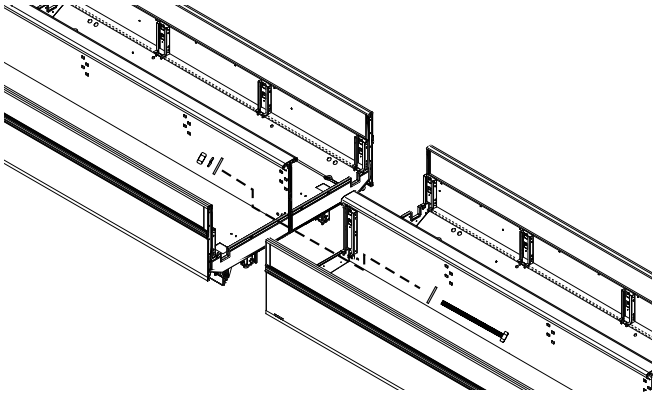
To correct vertical alignment of top rails and upper front panel, adjust shims as necessary.

Verify alignment of panels, bumper retainer and top rail.

Shim cases to ensure vertical alignment of panels and top rails.

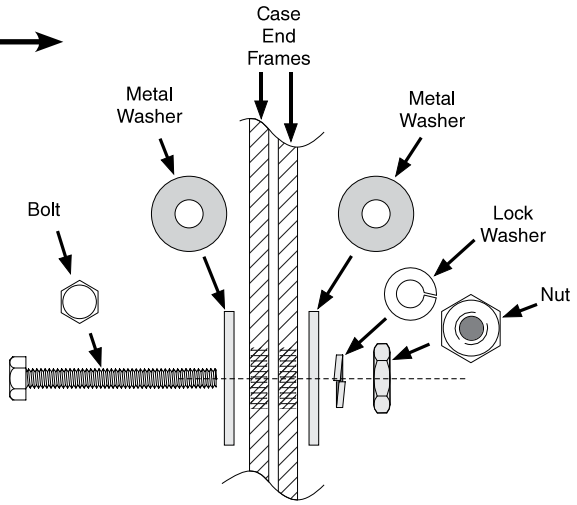
Install fasteners (parent to parent).





4. Align frame fasteners. **Fastener size and location are detailed on Pages 1-10 and 1-11.** Loosely assemble bolt, washers, lock-washer and nut as shown here.

NOTE: Joining hardware is shown enlarged for clarity.



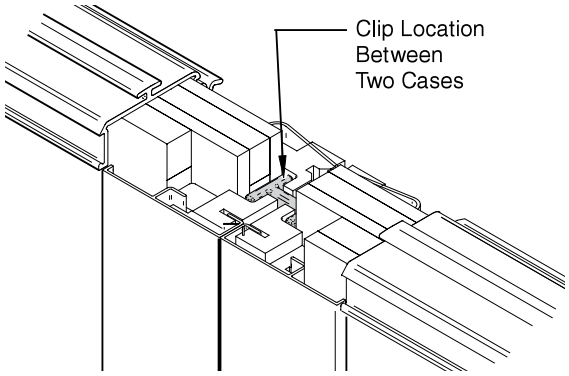
NOTE THAT ALIGNMENT ORDER IS DIFFERENT FROM TIGHTENING ORDER!

Do not attempt to draw merchandisers together using nut and bolt.

5. Secure H-shaped joining clip between merchandisers at center rail as shown.

NOTE: **H-shaped joining clip is not used when joining end merchandisers with stainless steel rails.**

Bumper retainer design that allows for slight lateral movement for both solid and glass front merchandisers.

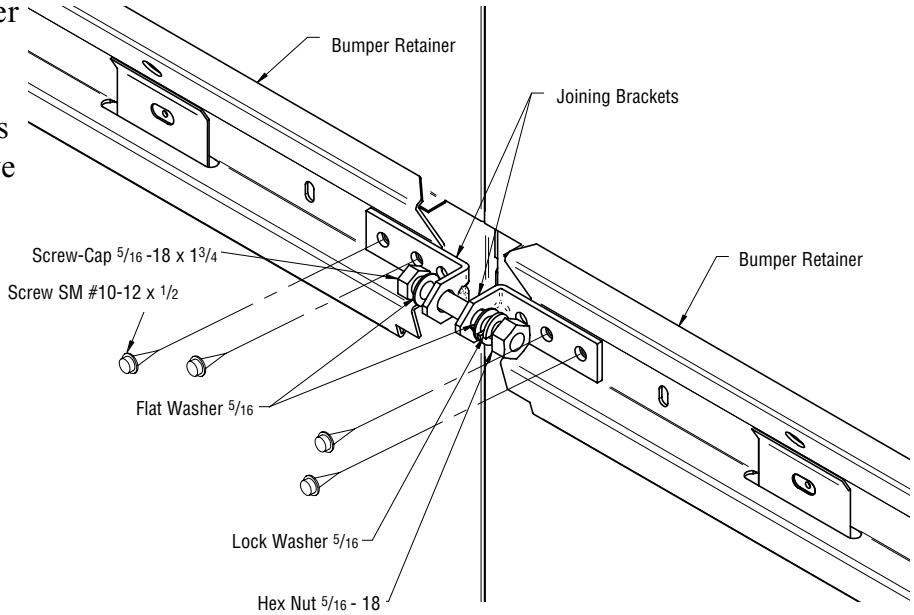


6. Join bumper retainers

Bumper retainers are joined with brackets. Loosely assemble screws, bolts, washers, lockwasher and hex nuts as shown.

Tighten bumper retainer brackets only after all frame fasteners have been tightened.

Refer to Page 1-10 and 1-11.



JOINING END MERCHANDISER TO WIDE ISLANDS

NOTE: Merchandisers must be level before joining.

1. Remove nuts and washers from outside of end case.

2. Apply gaskets to wide island.

3. Move end as close to the wide island as possible by using lever bar (mule). Take care not to damage legs.

4. **Verify upper front panel, front panel, bumper retainer, and top rail alignment *before* joining cases, and shim cases as necessary.**

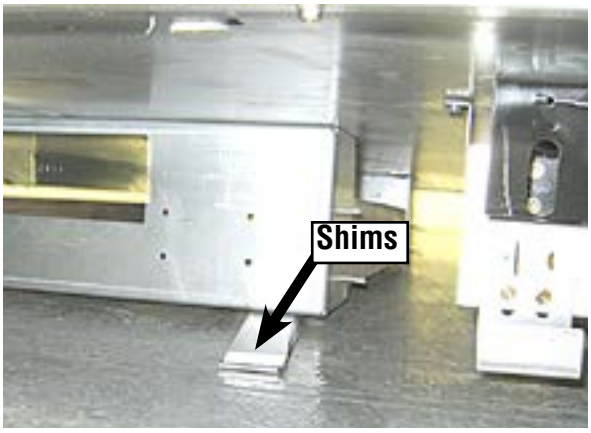
NOTE: **Merchandiser must be leveled before joining.** Verify all top rails, panels and bumper retainers of each merchandiser to be joined align vertically before joining.

To correct vertical alignment of top rails and upper front panel, adjust shims as necessary.

NOTE THAT ALIGNMENT ORDER IS DIFFERENT FROM TIGHTENING ORDER!

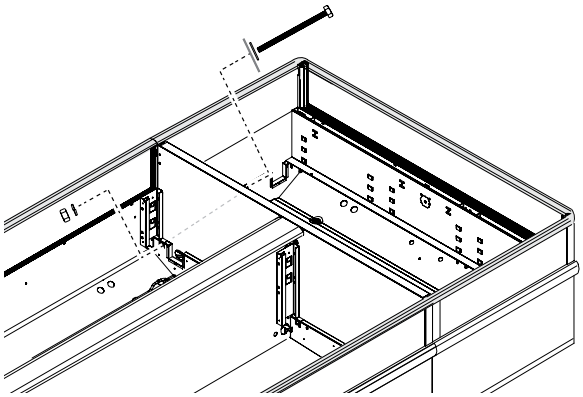
Verify alignment of panels, bumper retainer and top rail.

Shim cases to ensure vertical alignment of panels and top rails.



Install fasteners (parent to end).

(Lid removed from end case for clarity.)



5. Align end case with wide island frame. **Fastener size and location are detailed in pages 1-12 and 1-13.** Loosely assemble bolt, washers, lockwasher and nuts as shown here.

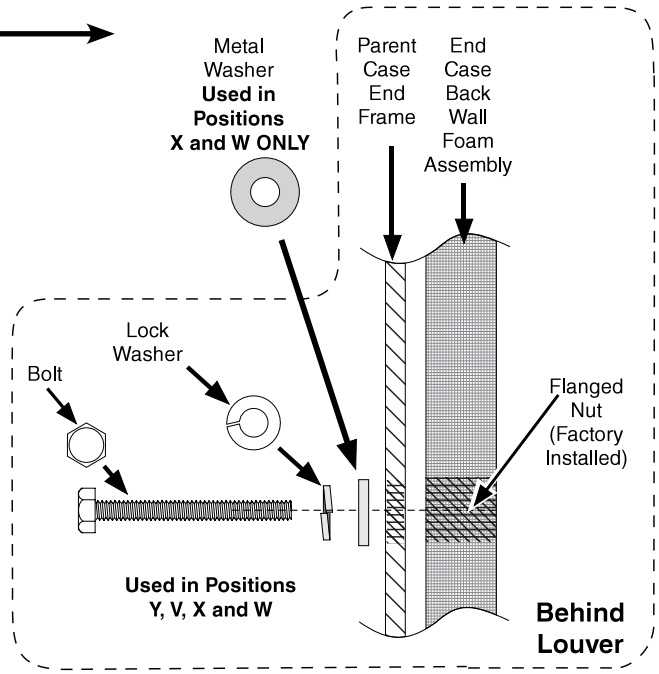
NOTE THAT ALIGNMENT ORDER IS DIFFERENT FROM TIGHTENING ORDER!

Do not attempt to draw merchandisers together using nut and bolt.

NOTE: **H-Shaped Joining Clip is not used when joining end merchandisers with stainless steel rails.**

Bumper retainers allow for slight lateral movement for both solid and glass front merchandisers.

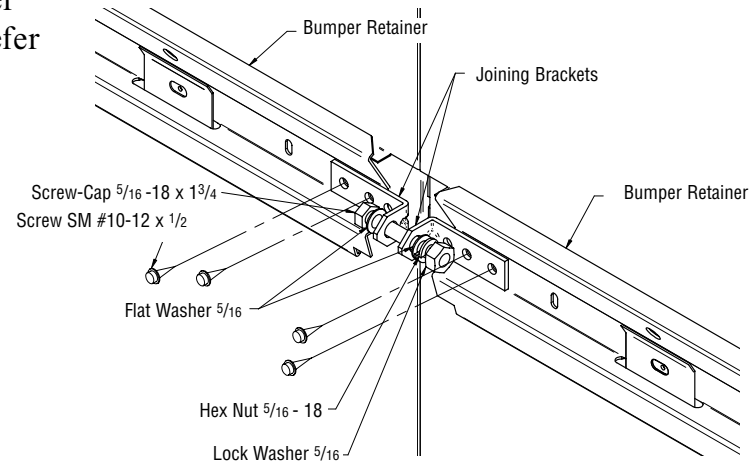
NOTE: Joining hardware is shown enlarged for clarity.


Metal Washer Used in Positions X and W ONLY
Parent Case End Frame
End Case Back Wall Foam Assembly
Lock Washer
Bolt
Flanged Nut (Factory Installed)
Used in Positions Y, V, X and W
Behind Louver

6. Join bumper retainers.

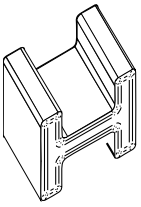
Bumper retainers are joined with brackets. Loosely assemble screws, bolts, washers, lockwasher and hex nuts as shown.

Tighten bumper retainer brackets only after all frame fasteners have been tightened. Refer to Page 1-12 and 1-13.



Parent to Parent Installation KEY:

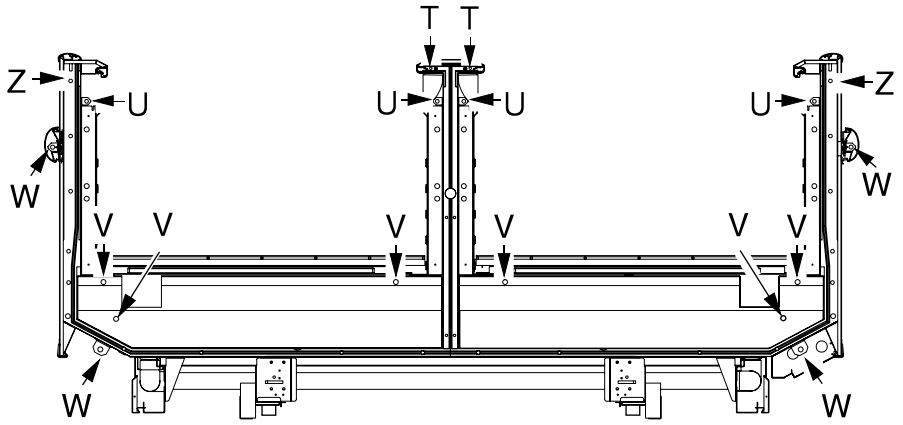
- T — Center Flue End Cap Alignment Pin
- U — 5/16-18 X 3/4 in. Hex Head Screw
- V — 5/16-18 X 3 1/2 in. Hex Head Screw
- W — 5/16-18 X 1 3/4 in. Hex Head Screw
- X — (Used for End Case Only)
- Y — M6 - 1.0 X 25 mm Hex Head Screw
- Z — Joining Clip



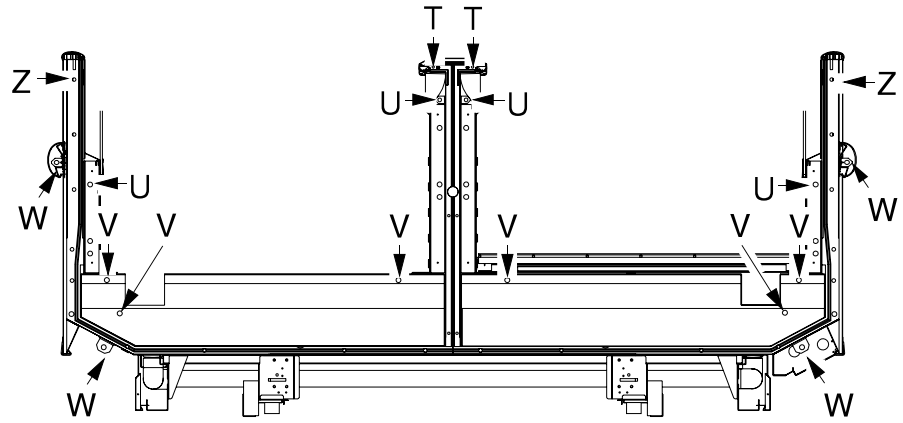
Joining Clip

Use a socket with a U-joint adjustable adapter to more easily tighten fasteners.

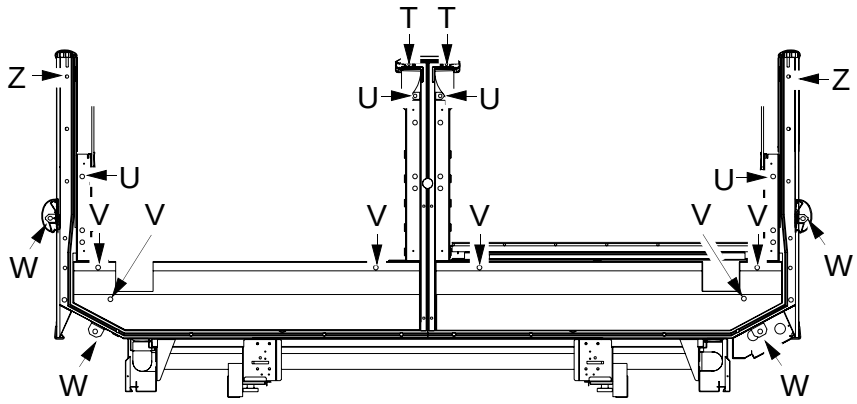
FW-L to FW-L



FWG-L to FWG-L



FWGH-L to FWGH-L



FI to FI

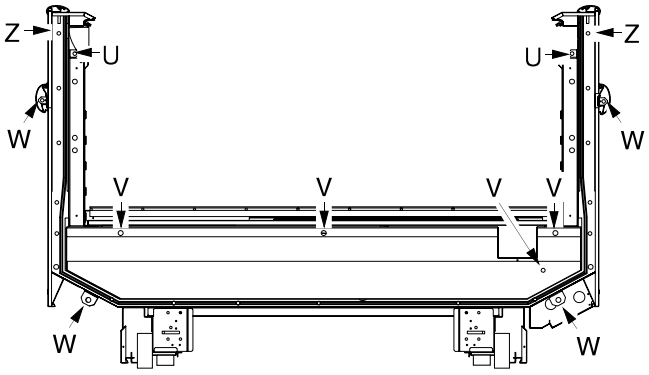
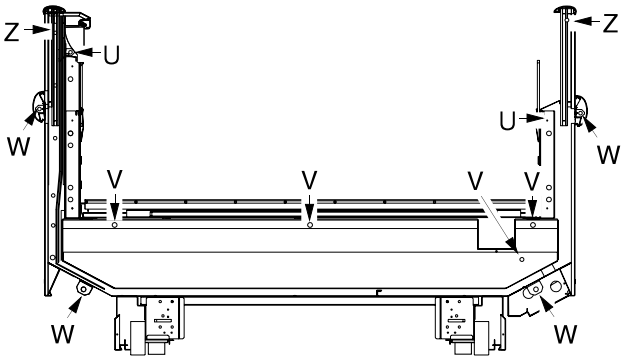
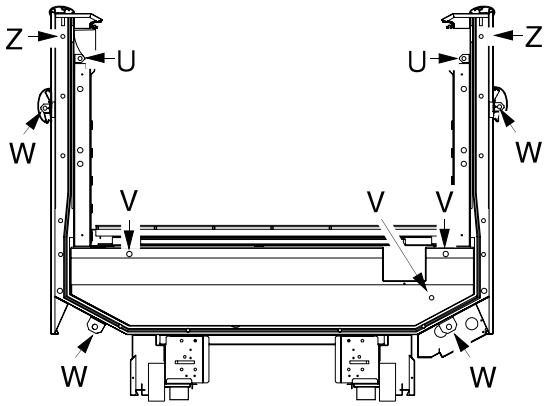


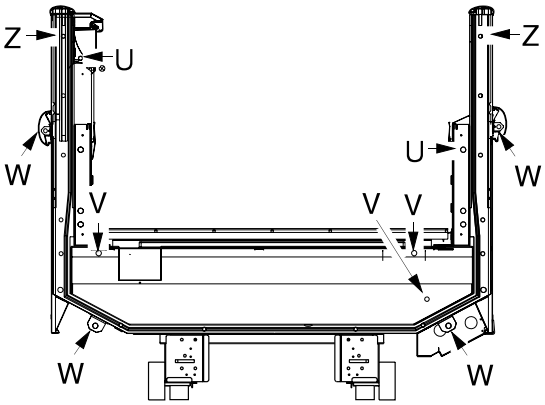
FIG to FIG



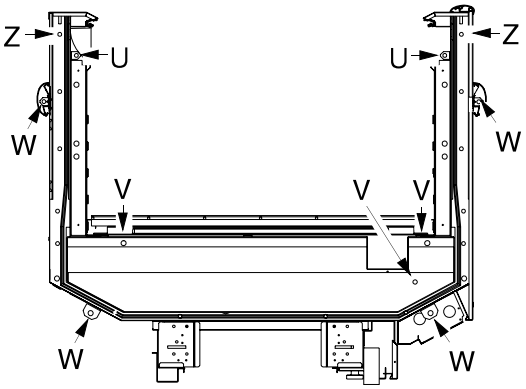
FN to FN



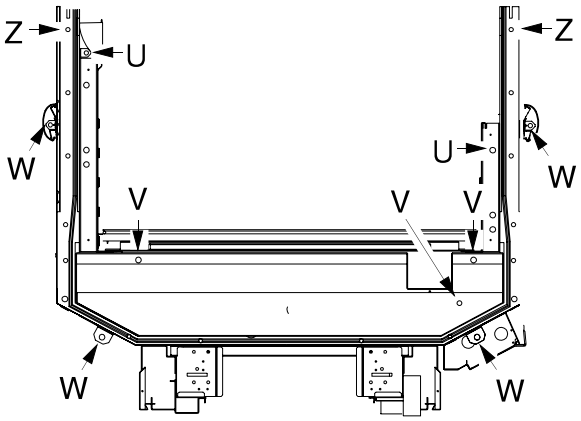
FNG to FNG



F to F

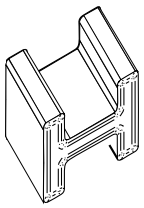


FG to FG



Parent to End Installation KEY:

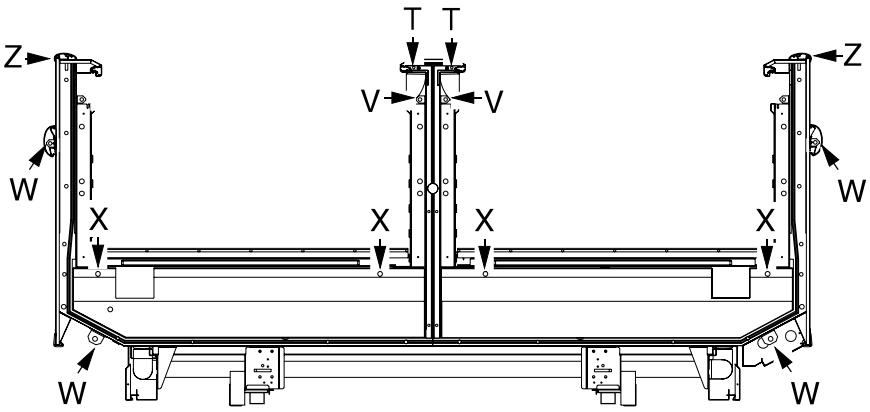
- T — Center Flue End Cap Alignment Pin
- U — 5/16-18 X 3/4 in. Hex Head Screw
- V — 5/16-18 X 3 1/2 in. Hex Head Screw
- W — 5/16-18 X 1 3/4 in. Hex Head Screw
- X — 5/16-18 X 4 1/2 in. Tap Bolt
- Y — M6 - 1.0 X 25 mm Hex Head Screw
- Z — Joining Clip



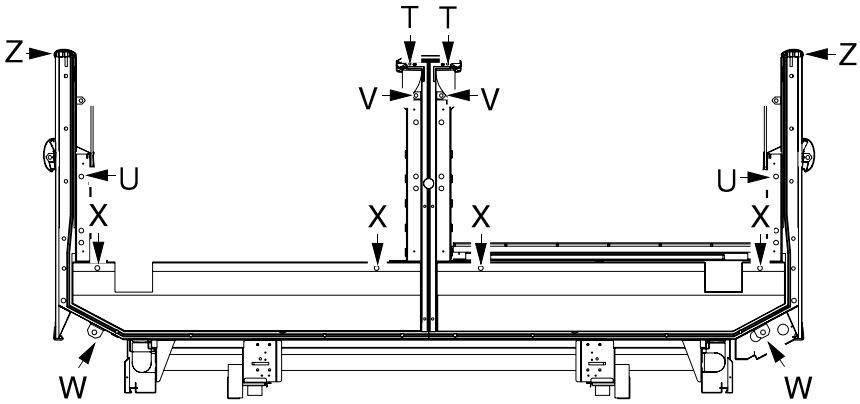
Joining Clip

Use a socket with a U-joint adjustable adapter to more easily tighten fasteners.

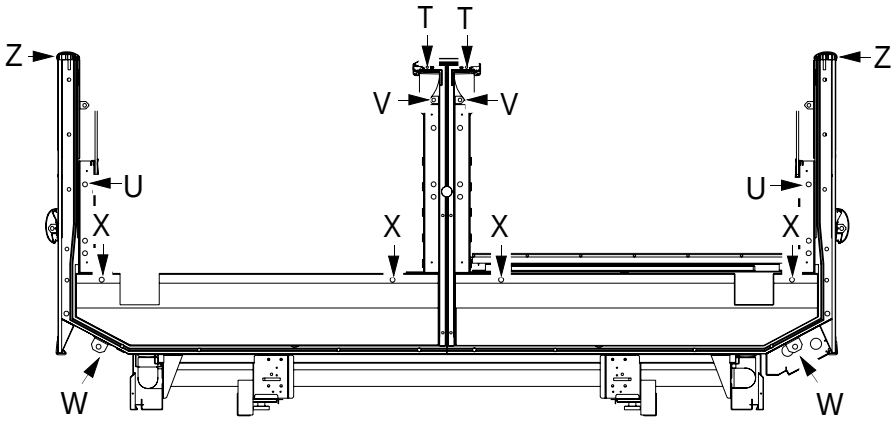
FW-L to FWE-L



FWG-L to FWEG-L



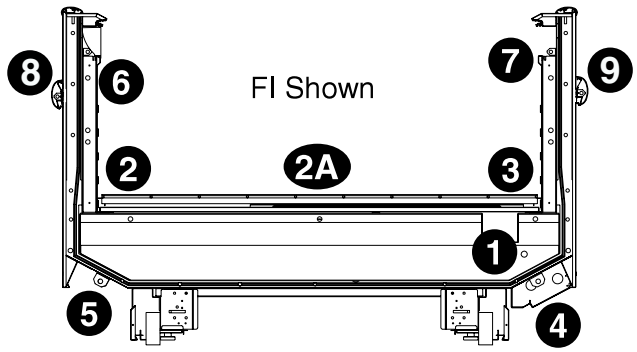
FWGH-L to FWEGH-L



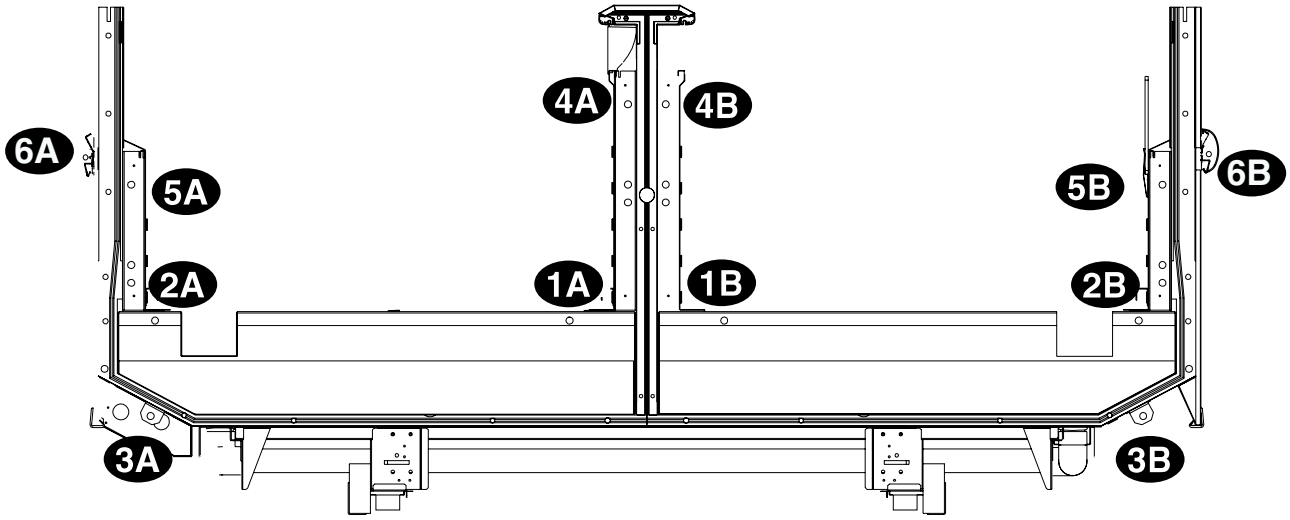
Fasten End Frames

1. Tighten joints in the order shown until gaskets are compressed, and merchandisers join smoothly. Work from the lower front to lower back to upper back. Fasten the upper front last.

When joining End merchandisers to Wide Islands, follow the joining order for the wide island, beginning with 1A and 1B.



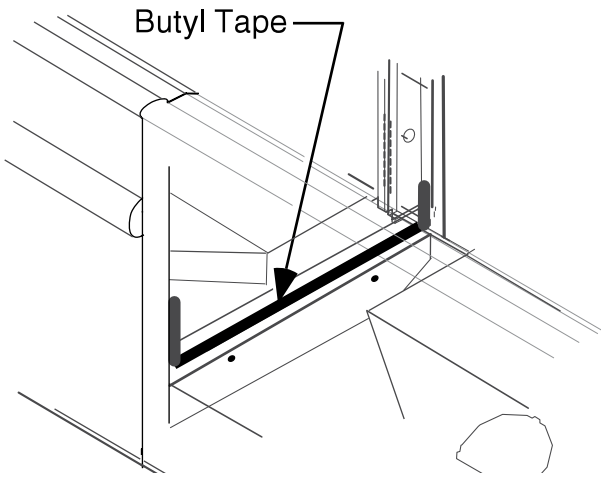
Tighten in Order Shown



Tighten in Order Shown

Seal Merchandisers

1. Remove wire rack, rack supports and interior panels to apply butyl tape.



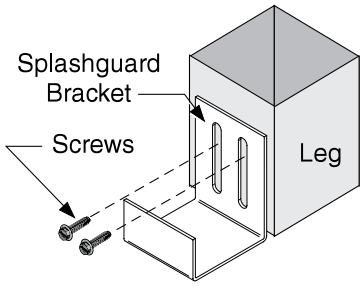
2. Apply butyl tape across the bottom joint. Be sure to extend the tape up the back and front of the merchandiser.

Silicone sealer may be applied around joining bolts on both sides in bottom shoe.

INSTALLING SPLASHGUARD BRACKETS

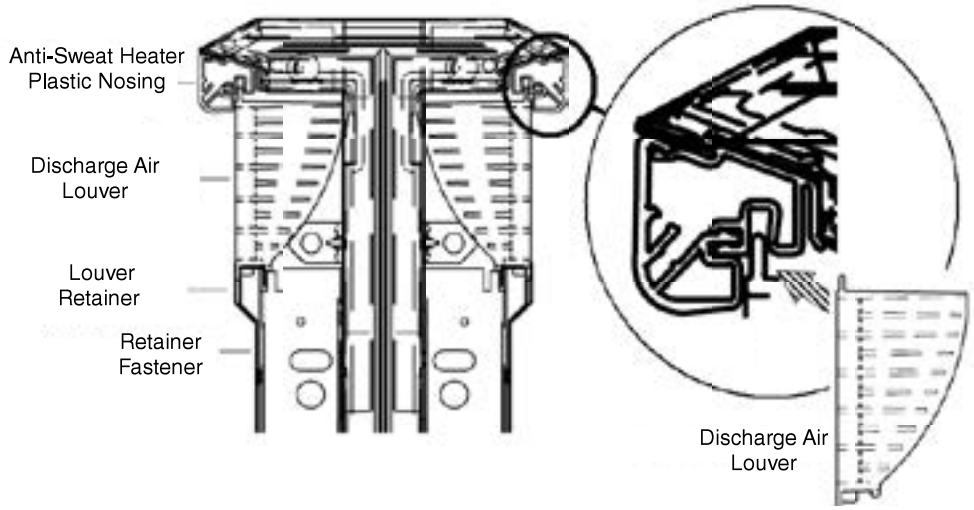
Position splashguard brackets to the merchandiser and level to the floor. Each bracket has a 1½ in. (38 mm) slot at the rear of the bracket where it attaches to the merchandiser. Tighten screws to secure the brackets.

Important: Install splashguard brackets before installing drip piping.



REPLACING INTERIOR PANELS AND DISCHARGE AIR LOUVERS

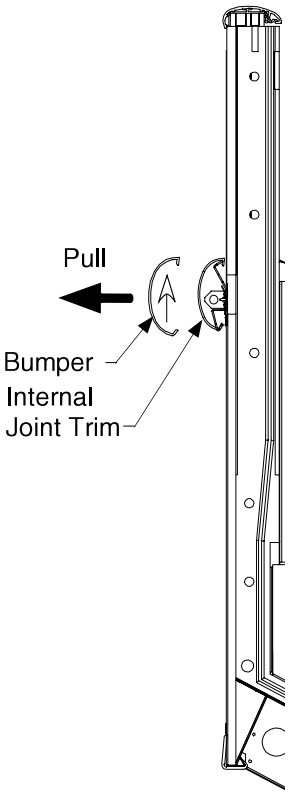
After case joining is complete and all joining bolts are fastened, re-install the interior front and back panels. Special care needs to be taken when re-installing the discharge air louvers. The flange at the top of the louver must properly fit into the correct position in the extrusion. Incorrect position of the louver can cause the plastic nosing on the anti-sweat heater to become dislodged. See details in Section 6 for correct steps to re-install plastic nosing extrusion.



OFFSETTING BUMPERS

Offsetting the bumper helps to disguise the joint locations, giving the lineup a smoother look.

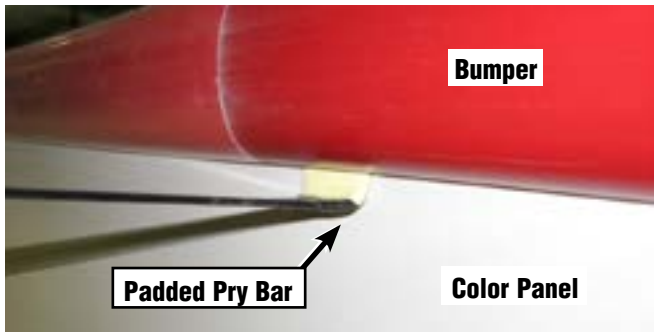
Note: The Excel low temperature case BUMPERS ARE DIRECTIONAL. Look for an arrow inside the bumper.



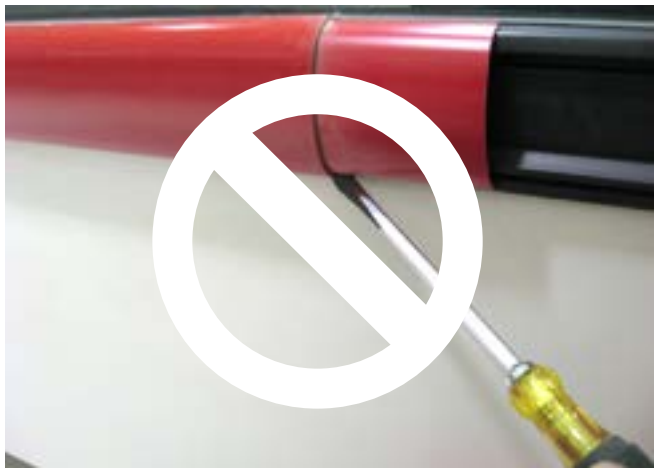
Bumper Removal

Although bumpers can usually be removed by hand, a simple tool to remove bumpers can be created by wrapping tape over the claw of a small pry bar as shown here. The pry bar is available at most local hardware stores.

Place the padded pry bar below the bumper as shown below. The tape/padding lessens the chance of damaging the color panel.

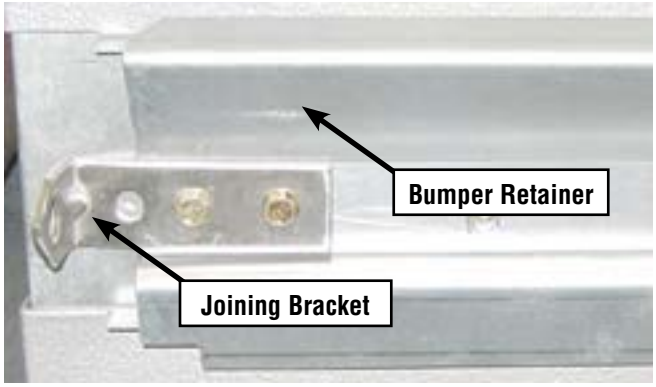


Do not use a screwdriver or other sharp object, which will damage bumper and color panel.

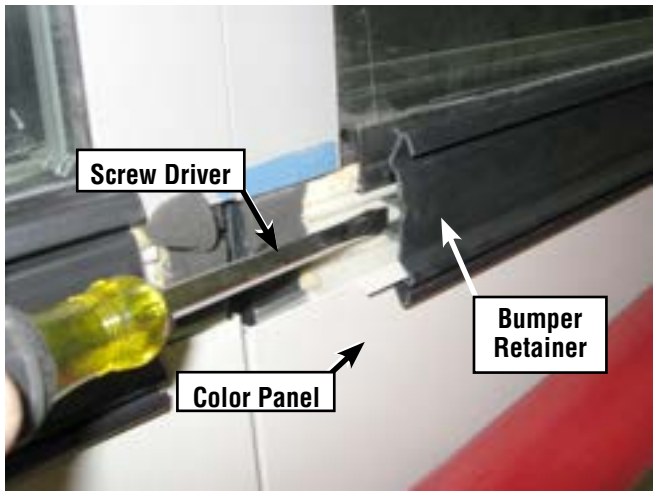


DO NOT USE SHARP OBJECT

These merchandisers have sheet metal retainers with joining brackets. Bumper retainers may be removed, or adjusted by removing bumper, color panels and bumper retainer screws.



Cases with rubber bumper retainers may be removed by lifting the end as shown below.



Prying on the long edges is likely to damage the retainer.

For merchandisers with rubber retainers and glass fronts, replace retainer as shown below using a scrap block of lumber and a rubber mallet. One person should hold the retainer in alignment while another taps it into place.

Offsetting Bumper (for End Merchandisers)

1. Locate starter bumper shipped with the left-end kit.

2. Remove factory installed bumper by pulling bumper away from bumper retainer. Be careful not to lose the internal joint trim on the bumper.

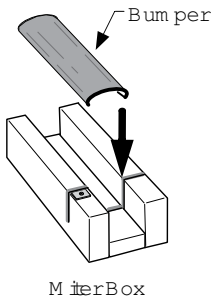
3. Starting at the left end of the lineup, install the bumper starter section first. To install:

a. Position internal joint trims so that the first is flush to the left-end panel and the second is centered between the starter bumper and the full-length bumper as shown.
b. Install full-length bumpers and internal trims offset across joints. Make sure that no gaps exist between sections. Continue installing the bumpers the length of the lineup.

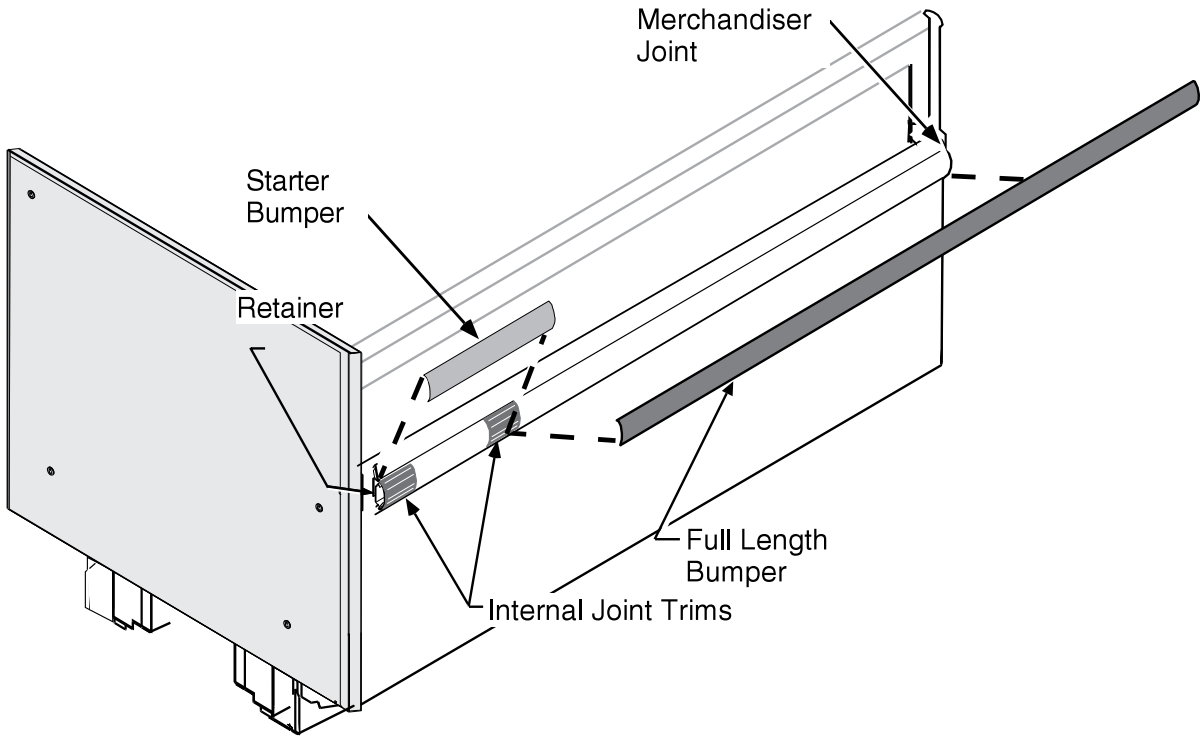
4. Once all except the last section of bumper have been installed, refrigerate the merchan-diser lineup for at least six (6) hours. **The last section of bumper should be kept inside a cooler or refrigerated merchandiser during this time.** This will allow the bumper to contract.

5. Go to the right end of the lineup and tap the bumper to close any gaps.

6. Measure and cut last section of bumper. Use a miter box and fine-tooth saw to cut last bumper to length. Install the last section.



7. Remove protective film from bumper once installation is complete.



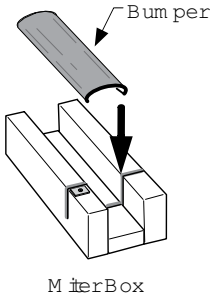
Offsetting Bumper (for Merchandiser Lineup)

1. Locate bumpers for the sides of the lineup. The bumpers are shipped with the merchandisers.

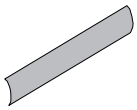
2. Refrigerate the merchandiser lineup for at least six (6) hours. **The offsetting bumpers sections should be kept inside a cooler or refrigerated merchandiser during this time.** This will allow the bumper to contract and provide for a good fit and finish.

3. To install offsetting bumpers:

a. Remove bumpers from cooler. Measure bumpers and cut to appropriate length. Use a miter box and fine-tooth saw.



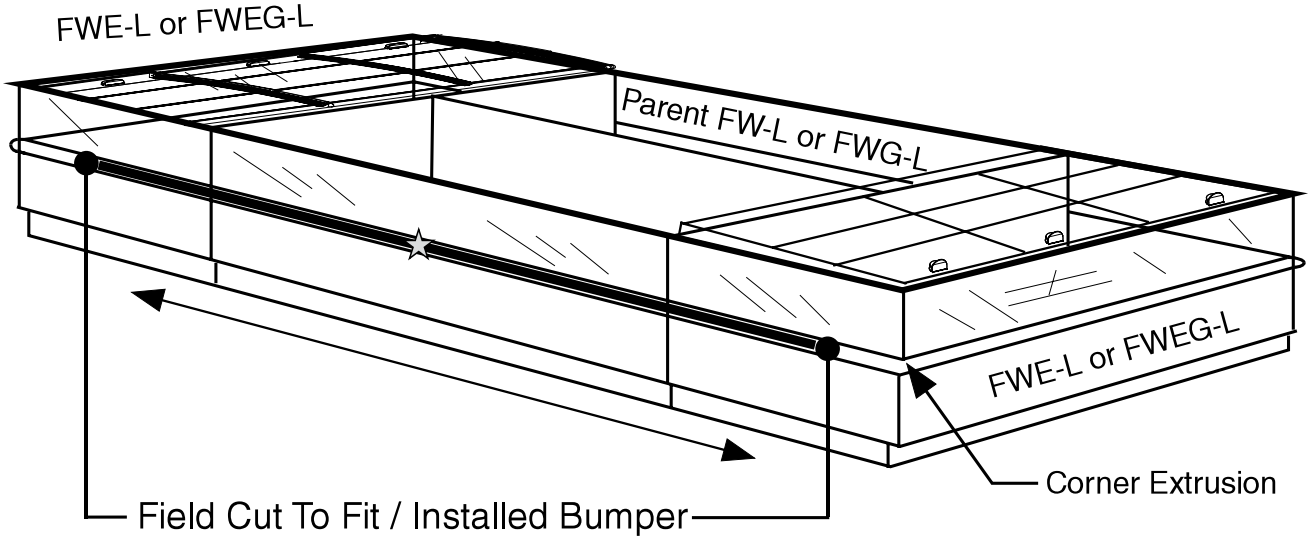
b. Insert internal joint trims first. Install bumpers offset across joints along the side of the lineup as shown in the illustration below. Joint trim provides stability for the bumpers and lends to a smooth fit and finish.



4. Make sure no gaps exist between sections at each end of field cut bumpers.

5. **Verify fit and finish at both sides of corner extrusion.** If bumpers are cut too long, the corner extrusion may bow out resulting in an unattractive finish.

6. Remove protective film from bumper once installation is complete.



OFFSETTING PLASTIC TOP RAIL

(For parent to parent joining)

Offsetting the plastic top rail helps to disguise the joint locations, giving the lineup a smoother look.

If factory installed, carefully remove all plastic top rails in the lineup. Do not damage the top rail retainer.

1. Refer to ① in illustration below. Install a 1-ft starter section flush against the corner trim at the left end of the lineup.

2. Refer to ② in illustration below. Re-install a 38-inch section removed earlier from the end merchandiser. Place it flush against the starter, without any gaps.

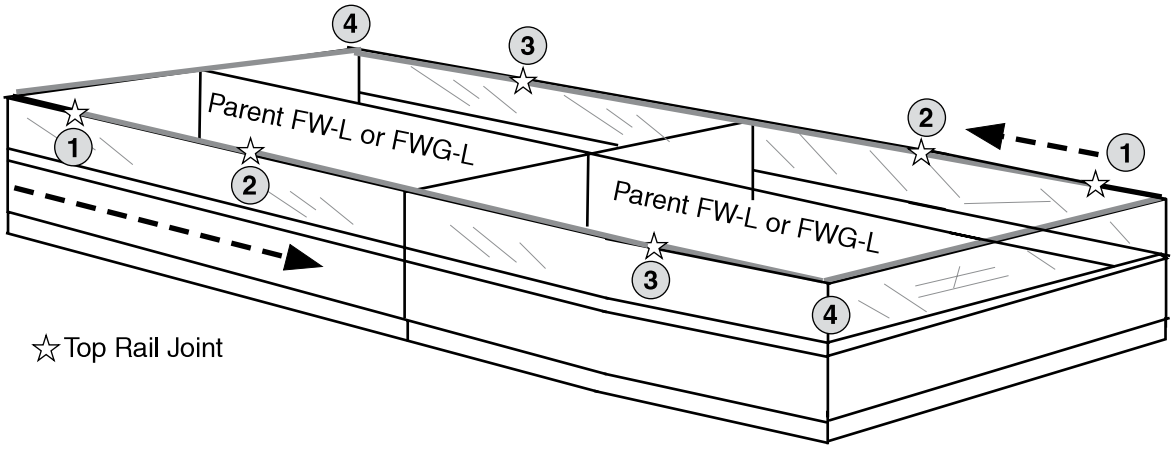
3. Refer to ③ in illustration below. Install a full-length top rail, leaving no gaps. Continue installing the top rails the length of the lineup.

4. Once all except the last section of top rail have been installed refrigerate the mer-chan-diser lineup for at least six (6) hours. **The last section of top rail should be kept inside a cooler or refrigerated merchandiser during this time.** This will allow the top rail to contract.

5. Go to the right end of the lineup and tap the top rail to close any gaps.

6. Refer to ④ in illustration below. Measure and cut last section of top rail. Use a miter box and fine-tooth saw to cut last top rail to length. Install the last section.

7. Remove protective film from top rail once installation is complete.



If top rails are not factory installed,

1. Begin by installing a 48-inch top rail against the corner trim of the LH end case. Refer to ① in the illustration below.

2. Install a second 48-inch top rail against the corner of the RH end merchandiser. Refer to ② in the illustration below.

3. Once all except the last section of top rail have been installed refrigerate the mer-chan-diser lineup for at least six (6) hours. **The last section of top rail should be kept inside a cooler or refrigerated merchandiser during this time.** This will allow the top rail to contract.

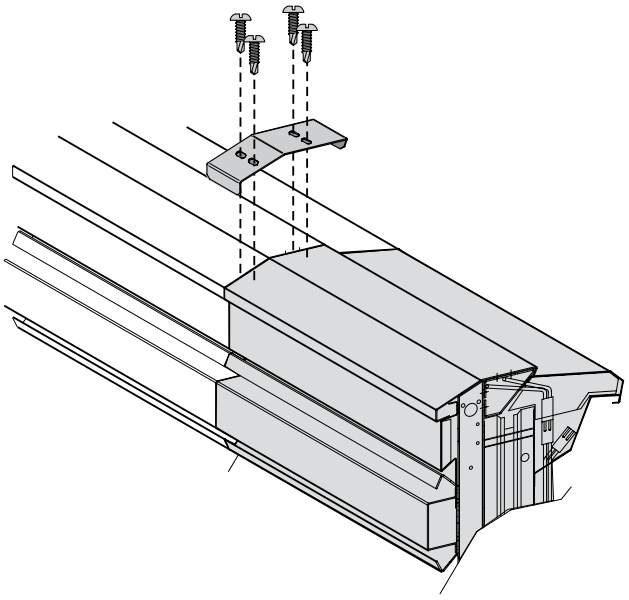
4. Tap the top rail to close any gaps.

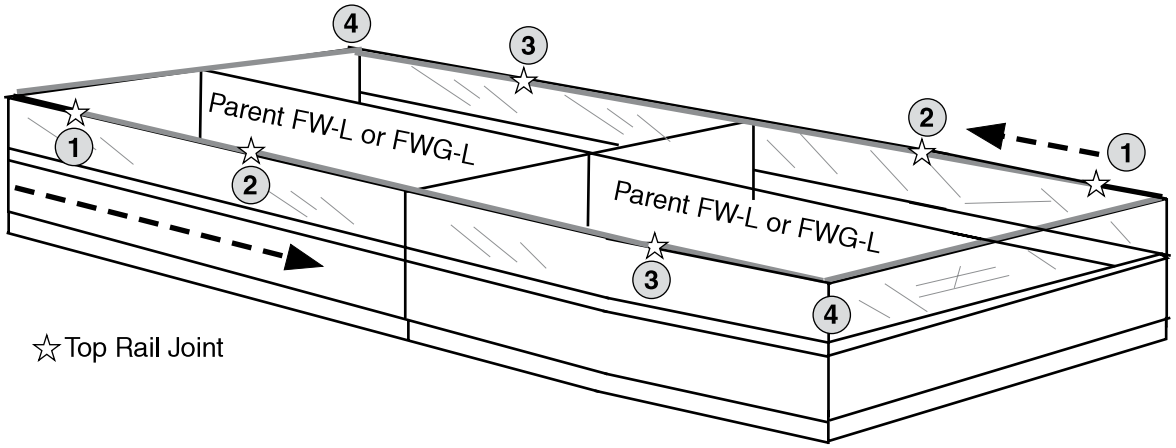
5. Measure the center section, ③ in illustration below, and cut Top Rail to fit. Use a miter box and fine-tooth saw to cut last top rail to length. Install the last section.

6. Remove protective film from top rail once installation is complete.

OPTIONAL STAINLESS STEEL TOP RAIL

Stainless steel top rails are not offset. Install trim at each joint as indicated below.





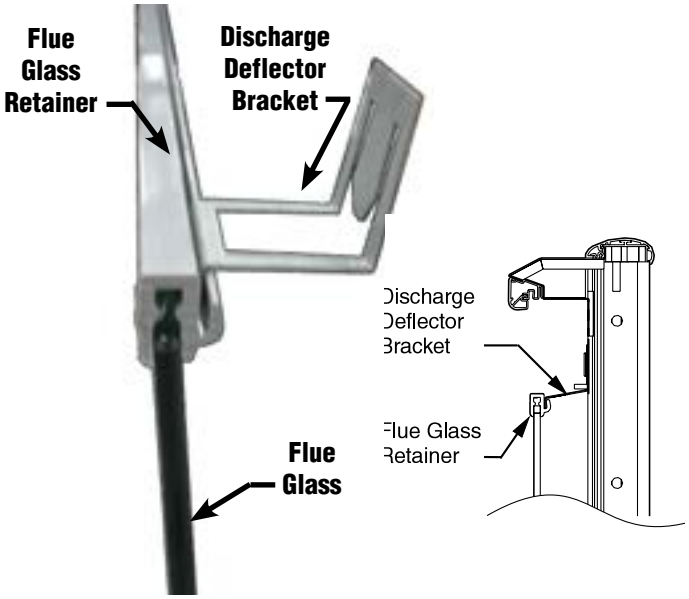
INSTALLING FLUE GLASS — FNG & FIG

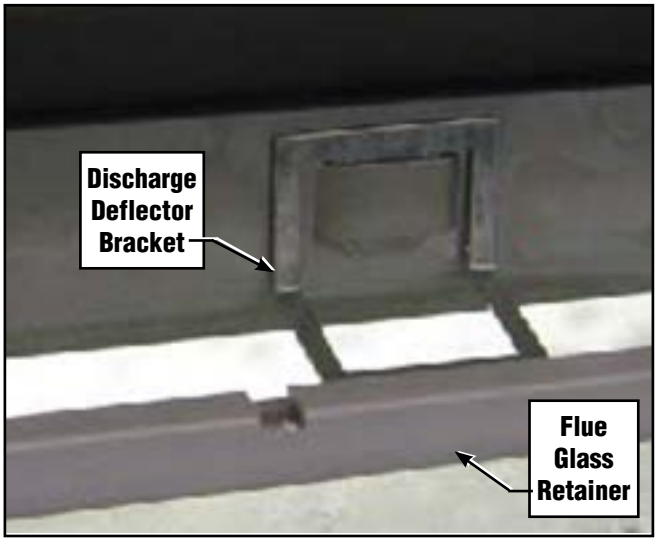
The louvers, flue glass, retainer and brackets are shipped loose and must be installed before the lineup can be started up.

1. Apply flue glass Retainer to the top of each section of flue glass.

2. Position the glass in the merchandiser.

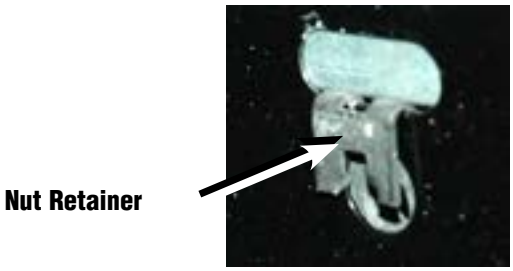
3. Slide a Discharge Deflector Bracket into each bend of the and into the flue glass retainer.

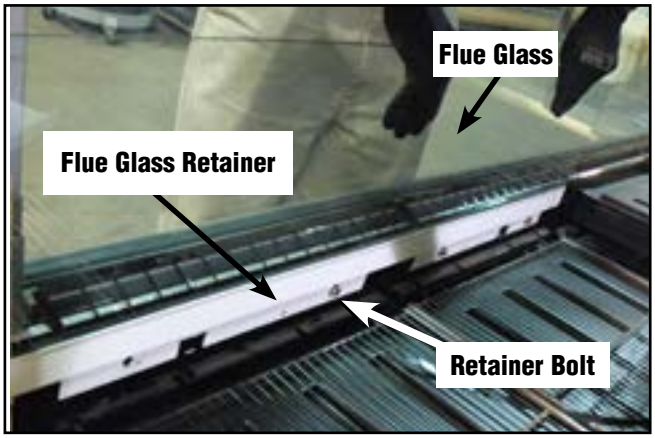




INSTALLING FLUE GLASS CLAMP (FWGH & FWEGH)

The flue glass retainer is installed as shown below. Insert supplied bolts (4) through retainer, Bolts fasten into factory-installed nut retainers.





The flue glass is packed inside of the case. Remove the packaging, and slide flue glass securely into top lip of flue glass retainer. Fasten (4) bolts into nut retainers (7f lbs). DO NOT over-tigten bolts.

INSTALLING PARTITIONS

To join same temperature fixtures on different defrost cycles, an acrylic partition kit is required.

To join unlike fixtures, or like fixtures operating at different temperatures, an insulated partition kit is required. It must be installed when setting the lineup. Instructions for installing these partitions are included with the kits.

INSTALLING END ASSEMBLIES

End assemblies are normally factory installed. The following information is provided for retrofit or field installation.

1. Prepare Merchandiser

a. Remove display racks, pans, front rack supports and front air grilles from section of case where end is to be installed.
b. Remove the interior back panel. No tools required.

2. Apply gaskets to end frame.

3. Fasten End Assembly to Merchandiser

a. Use Bolt and washer to fasten end assembly to merchandiser in the same way the end merchandiser is fastened.
b. Tighten in order shown for joining.

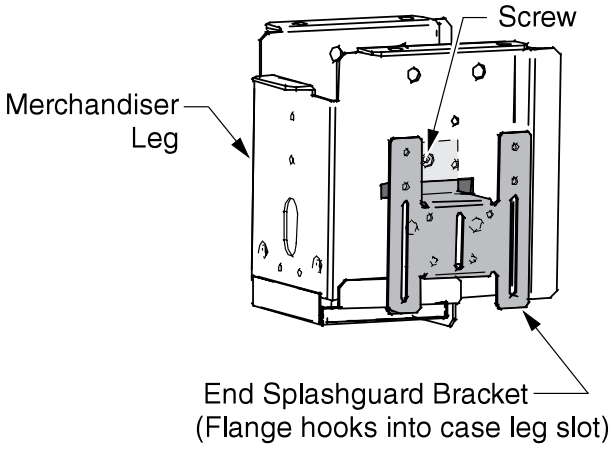
4. Seal End to End Frame

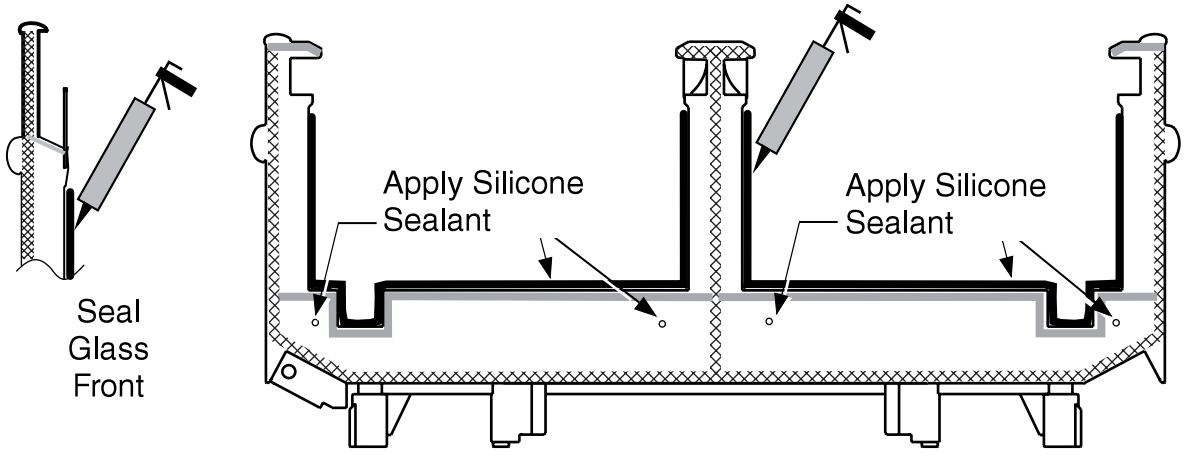
Remove front shelf and shelf support bracket. Apply a 1/2 in. bead of Silicone at the back of the case, starting at the first slot. Continue across the bottom and up the front as shown below. Use field-supplied silicone in any gap between front support bracket and end assembly.

Re-install bumpers as described beginning on Page 1-14.

5. Install End Splashguard Bracket

Insert back of bracket through slot in leg. Use Screws to attach End Splashguard Retainer to end frame.





NOTES:

REFRIGERATION / ELECTRICAL

REFRIGERANT

The correct type of refrigerant will be stamped on each merchandiser's serial plate. The merchandiser refrigeration piping is leak tested, factory sealed and pressurized. Before making refrigeration hookups, depress the universal line valve to ensure that coils have maintained pressure during shipment.

⚠ CAUTION

Refrigerant vapor is hazardous to your health and can cause death.

Avoid breathing refrigerant and lubrication vapor or mist. Exposure may irritate eyes, nose and throat. If accidental system discharge occurs,ventilate work area before resuming service.

Always wear safety goggles and protective gloves when working with refrigerants. Contact with refrigerant may cause injury. Disconnect hoses with extreme caution! All hoses may contain liquid refrigerant under pressure.

Be sure that any room where you are working is thoroughly ventilated, especially if a leak is suspected.

Read all safety information regarding the safe handling of refrigerant and refrigerant oil, including the Material Safety Data Sheet. MSDS sheets can be obtained from your refrigerant supplier.

Refrigeration lines are under pressure and should be depressurized before attempting to make any connections.

REFRIGERANT PIPING

Connection Location

The refrigerant line connections are at the right- hand end of merchandiser (end opposite the main serial plate) beneath the display pans. A sticker marks the location of the connection. The installer must saw a hole to exit the cases.

A refrigeration shroud ships with each case. Before making connections, place the refrigeration shroud over refrigeration piping so that when the shroud is rotated into place, it will be in the upright position. The Figure 2-1 shows the correct orientation.

Be careful not to burn, scorch or overheat the shroud when making connections. Once connections have been made, apply silicone sealant to the bottom of the shroud as shown in Figure 2-2.

Figure 2-1

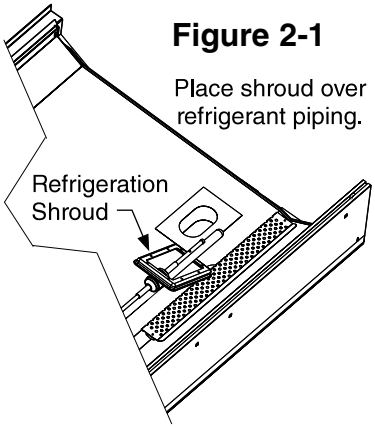
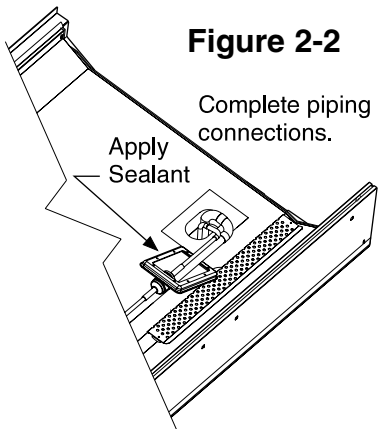
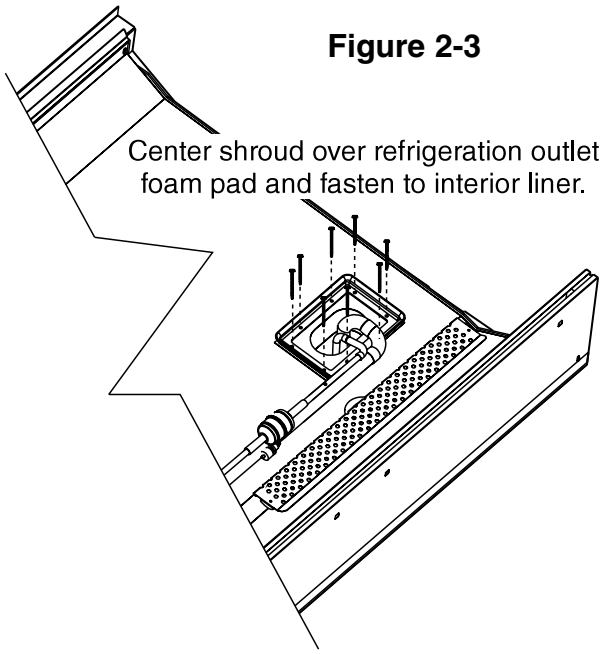


Figure 2-2



As shown in Figure 2-3, rotate and center the shroud over the refrigeration outlet foam pad, then fasten to the interior liner of the bottom.

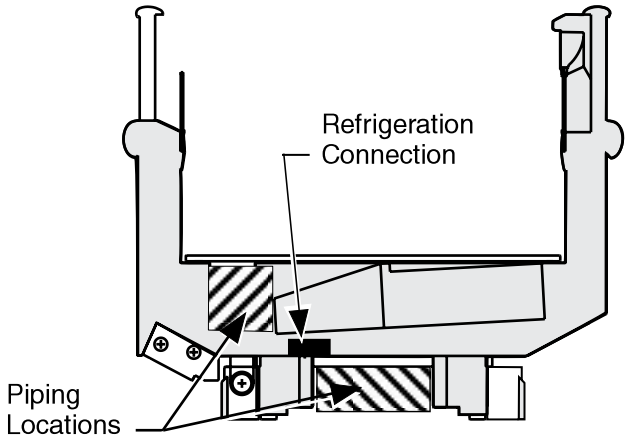
Figure 2-3



After connections have been made, seal this outlet thoroughly. Seal both the inside and the outside. We recommend using an expanding polyurethane foam insulation. Cover foam with silicone to prevent water from entering foam.

Multiplexing
Piping of merchandisers operating on the same refrigeration system may be run from case to case. **DO NOT RUN REFRIGERANT LINES THROUGH MERCHANDISERS THAT ARE NOT ON THE SAME REFRIGERATION SYSTEM BRANCH** as this may result in poor refrigeration control and compressor failure.

Interconnecting piping inside the merchandiser must be located as shown below for clearance beneath the display pans. Alternately, the interconnecting piping may be run outside the case in the area shown.



Line Sizing
Refrigerant lines should be sized as shown on the refrigeration legend that is furnished for the store or according to ASHRAE guidelines.

Note: If Koolgas defrost is used, the liquid line will need to be increased two sizes larger inside the merchandiser area. This is necessary to ensure even liquid drainage from all evaporators during defrost.

Oil Traps
P-traps (oil traps) must be installed at the base of all suction line vertical risers.

Pressure Drop
Pressure drop can rob the system of capacity. To keep the pressure drop to a minimum, keep the refrigerant line run as short as possible using a minimum number of elbows. Where elbows are required, USE LONG RADIUS ELBOWS ONLY.

INSULATION

With GAS Defrost
The suction and liquid lines should NOT contact each other and should be insulated separately for a minimum of 30 ft (9144 mm) from the merchandiser.

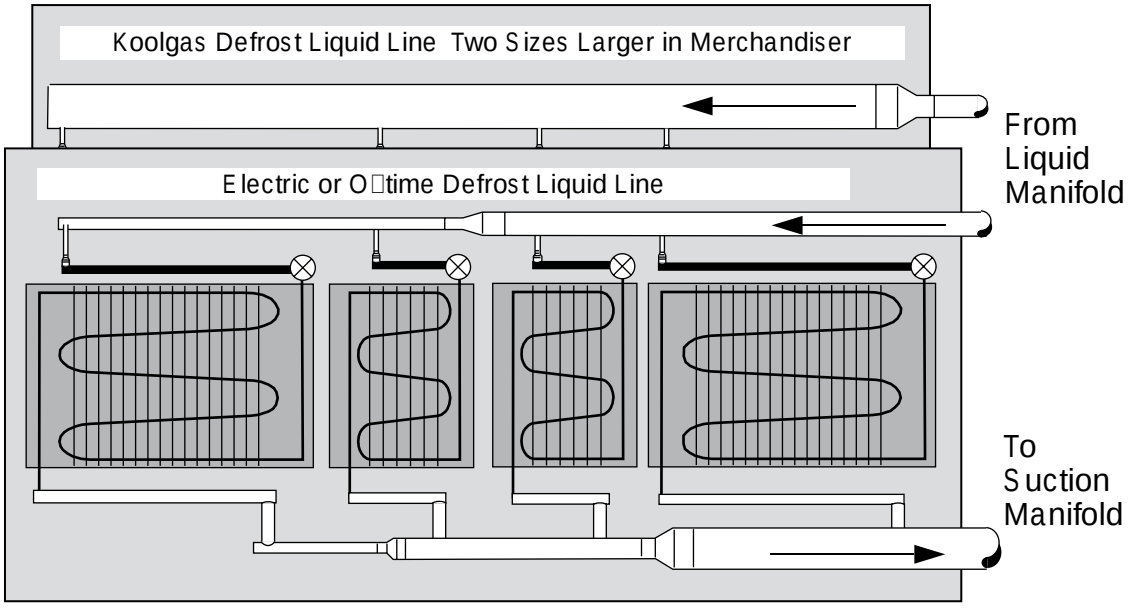
With OTHER Than Gas Defrost
The suction and liquid lines should be clamped or taped together and insulated for a minimum of 30 ft (9144 mm) from the merchandiser.

With EITHER of Above
Additional insulation for the balance of the liquid and suction lines is recommended wherever condensation drippage is objectionable or the lines are exposed to ambient conditions.

ATTENTION:
The following information is applicable only for piping Hussmann merchandisers to Hussmann refrigeration equipment.

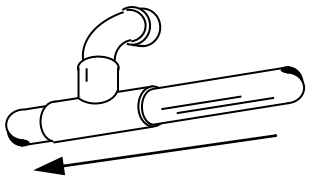
BRANCH LINE PIPING

Suction Line – All Defrosts
- Pitch in direction of flow.
- May be reduced by one size at one third of merchandiser run load and again after the second third. Do NOT reduce below evaporator connection size.
- Suction returns from evaporators enter at the top of the branch line.


Koolgas Defrost Liquid Line Two Sizes Larger in Merchandiser
Electric or O□time Defrost Liquid Line
From Liquid Manifold
To Suction Manifold

Liquid Line – Off-time and Electric Defrost

- May be reduced by one size after one half the merchandiser load run. Do not reduce below evaporator connection size.
- Take-offs to evaporators exit the bottom of the liquid line. Provide an expansion loop for each evaporator take-off (minimum 3 in. (76 mm) diameter).



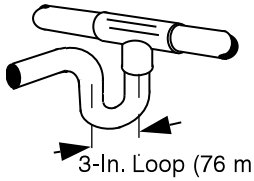
Suction Line Return

Liquid Line – Koolgas Defrost

- Maximum of 6 evaporators per Branch System.
- Increase the liquid line size inside the case by two sizes over the branch size.

Branch Size	In Merchandiser Size
1/2	7/8
5/8	1 1/8
7/8	1 3/8
1 1/8	1 5/8
1 3/8	2 1/8

- Take-offs to evaporators exit the bottom of the liquid line. Provide an expansion loop for each evaporator take-off (minimum 3 in. (76 mm) diameter).



Liquid Line Take Off

FRONT TO REAR AND/OR END INTERCONNECTS

The wide island merchandisers are factory equipped with separate piping and air systems for each compartment, and are thus all capable of twin-temperature operation. This is a standard feature.

If the wide island merchandiser is to be run at a single temperature, factory installed piping interconnect kits are available.

NOTE:
A *Dual Temperature Kit* adds components to allow a low temperature merchandiser to operate at medium temperatures, and switch between low and medium temperature operating conditions.

Twin Temp is used on low temperature wide island cases only and is the standard configuration. Twin temp means each side of the island operates separately; thus one side might be set for ice cream conditions while the other side could be set for frozen food or ice cream.

Only when both sides of a wide island lineup will always be used for the same operating conditions, should an interconnect piping kit be considered. Interconnect piping kits cannot be used with dual temperature kits. Contact Hussmann for further information.

REFRIGERATION THERMOSTAT

The refrigeration thermostat body is located in the electrical wireway. The bulb, when factory installed, is located in the discharge flue. Wide Island models will have two thermostats – one on each side of the merchandiser.

DEFROST TERMINATION THERMOSTAT

The standard disc type defrost termination thermostat is not adjustable. This thermostat is clamped to the coil inlet tube.

CDA SENSOR (OPTIONAL)

Factory installed optional CDA sensor is located where the thermostat bulb would normally be located. Its leads will be routed through the electrical wireway and to the rack control panel. Leads are tagged in the wireway. Wide Island models will have two sensors—one on each side of the merchandiser.

MERCHANDISER ELECTRICAL DATA

Technical data sheets are included with this manual. The data sheets provide merchandiser electrical data, electrical schematics, parts lists and performance data. Refer to the technical data sheets and merchandiser serial plate for electrical information.

FIELD WIRING

Field wiring must be sized for component amperes stamped on the serial plate. Actual ampere draw may be less than specified. Field wiring from the refrigeration control panel to the merchandisers is required for defrost termination thermostats and for optional refrigeration thermostats. When multiple merchandisers are on the same defrost circuit, the defrost termination thermostats are wired in series.

ALWAYS CHECK THE SERIAL PLATE FOR COMPONENT AMPERES.

ELECTRICAL CONNECTIONS

All wiring must be in compliance with NEC and local codes. All electrical connections are to be made in the electrical wireway or *Handy Box*.

IDENTIFICATION OF WIRING

Leads for all electrical circuits are identified by colored plastic bands. These bands correspond to the *color code sticker* (shown below) located inside the merchandiser's wireway cover.

The defrost heaters, defrost termination thermostats and refrigeration thermostats on the wide island models are tagged with identification as being either front or rear merchandiser display section defrost and refrigeration controls.

WIRING COLOR CODE

Leads for all electrical circuits are identified by a colored plastic band: neutral wire for each circuit has either White insulation or a White plastic sleeve in addition to the color band.

PINK ..... REFRIG. THERMOSTAT LOW TEMP.	ORANGE OR
LIGHT BLUE . REFRIG. THERMOSTAT NORM TEMP.	TAN .....LIGHTS
DARK BLUE . DEFROST TERM. THERMOSTAT	MAROON ..RECEPTACLES
PURPLE ..... CONDENSATE HEATERS	YELLOW ...DEFROST HEATERS 120V
BROWN ..... FAN MOTORS	RED .....DEFROST HEATERS 208V
GREEN* ..... GROUND	*EITHER COLORED SLEEVE OR COLORED INSULATION

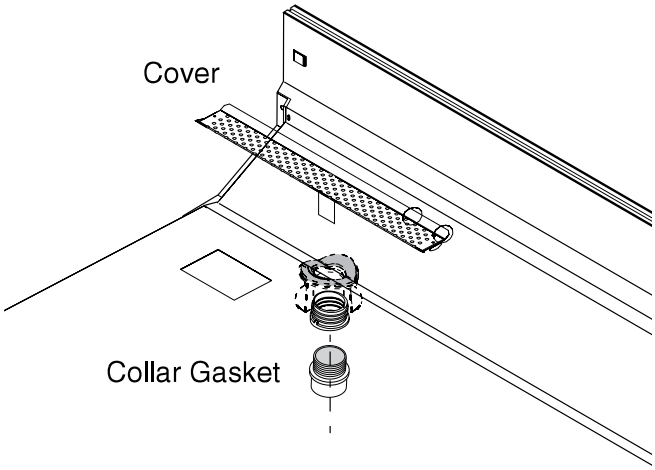
ELECTRICIAN NOTE: Use copper conductor wire only.
CASE MUST BE GROUNDED

DRIP PIPING AND SPLASHGUARDS

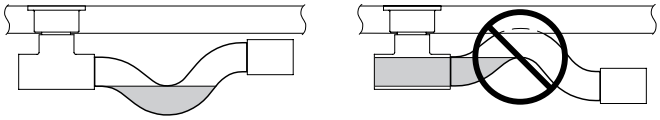
WASTE OUTLET AND WATER SEAL

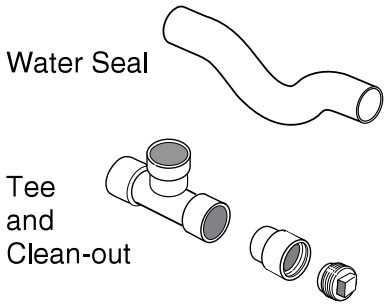
Each merchandiser has two waste outlets. The waste outlets are located in front of the fan plenum 12 inches (305 mm) from either end of the merchandiser.

Depending on the model, tees with clean-outs, or elbows, are supplied for each merchandiser. One water seal is supplied for each merchandiser. The water seal must be installed with the waste outlets to prevent air leakage and insect entrance into the merchandiser.



Items Factory Installed for Excel Waste Outlet on Each End of Case





Factory Furnished Items To Be Installed

⚠ CAUTION

Splashguard brackets MUST be installed before piping merchandiser.

INSTALLING DRIP PIPING

Poorly or improperly installed drip pipes can seriously interfere with the merchandiser's operation and result in costly maintenance and product losses.

Optional drip pipe arrangements are shown on the next page. Assemble the components using PVC specific threaded pipe sealer according to the manufacturer's direction.

It is the installing contractor's responsibility to consult local agencies for local code requirements.

Please follow the recommendations listed below when installing drip pipes to ensure proper installation.

1. Never use drip piping smaller than the nominal diameter of the pipe or water seal supplied with the merchandiser.

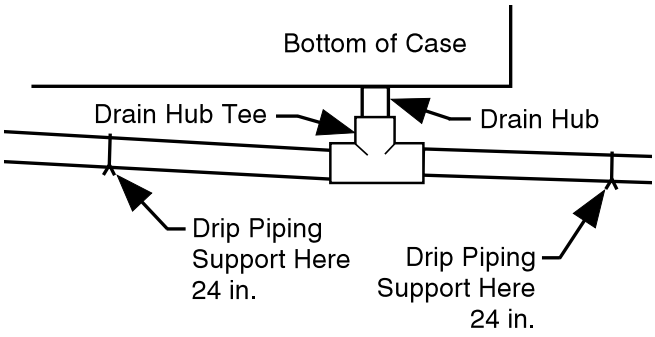
2. When connecting drip piping, the *water seal* must be used as part of the drip piping to prevent air leakage or insect entrance. Never use two water seals in series in any one drip pipe. **DOUBLE WATER SEALS IN SERIES WILL CAUSE AN AIR LOCK AND PREVENT DRAINING.**

3. Pitch the drip piping in the direction of flow. **There should be a minimum pitch of 1/4 in. per ft (20 mm per 1 m).**

4. Avoid long runs of drip piping. Long runs make it impossible to provide the pitch necessary for good drainage.

5. Ensure that drip piping is supported to relieve any stress on drip pipe connectors and drain hub.

   a. Drip piping **MUST** be supported 24 inches from drain hub tee.



6. Provide a suitable air break between flood rim of the floor drain and outlet of drip pipe. To meed code requirements, it may be necessary to install a field-supplied drip pipe reducer. An alternative is to cut the last section of drip pipe at an angle.

7. Prevent drip pipes from freezing:

   a. Do NOT install drip pipes in contact with uninsulated suction lines. Suction lines should be installed with a nonabsorbent insulation material.

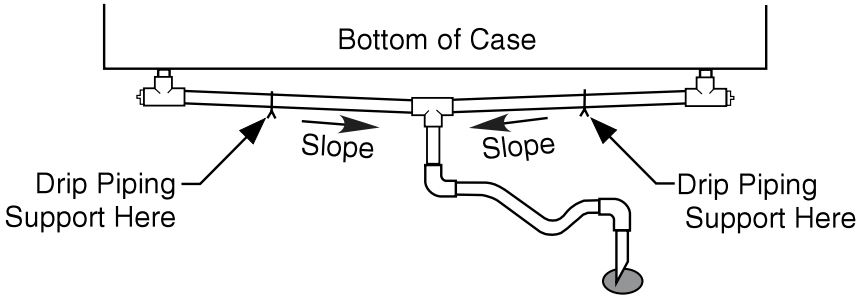
   b. Where drip pipes are located in dead air spaces, such as between merchandisers or between a merchandiser and a store wall, provide means to prevent freezing.

DRIP PIPING LINEUP ARRANGEMENTS

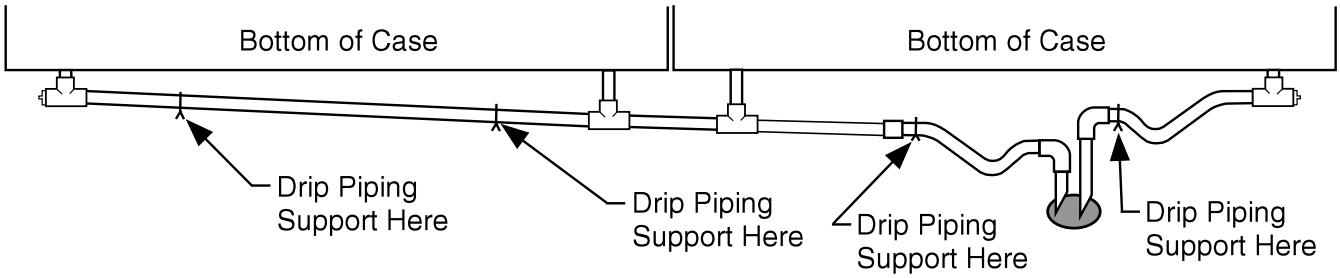
The following illustrations below show typical arrangements for installing drip pipes for a lineup of merchandisers. Illustrations are for reference only. Piping may vary with location and access to hub drain(s). Each merchandiser waste outlet must be individually piped to a hub drain if 1/4 in. drip piping pitch cannot be maintained.

NOTE: No more than two merchandisers are to be piped per water seal. Do not install water seal between two merchandiser waste outlets that are piped together. **(Double water seals in series will cause an air lock and prevent drainage.)**

Optional Excel Drip Piping Arrangements



It is the installing contractor's responsibility to provide suitable drainage.



One Water Seal per Run of Drip Pipe
Always Slope Toward Floor Drain

INSTALLING SPLASHGUARDS

The splashguard is shipped inside each merchandiser. **AFTER** merchandisers have been leveled and joined, and all drip piping, electrical and refrigeration work has been completed, install the splashguard. End splashguards are addressed on the next page.

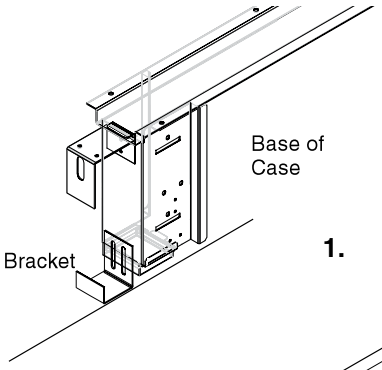
To Install Splashguards:

1. Check to be sure that all splashguard brackets are level with the floor.

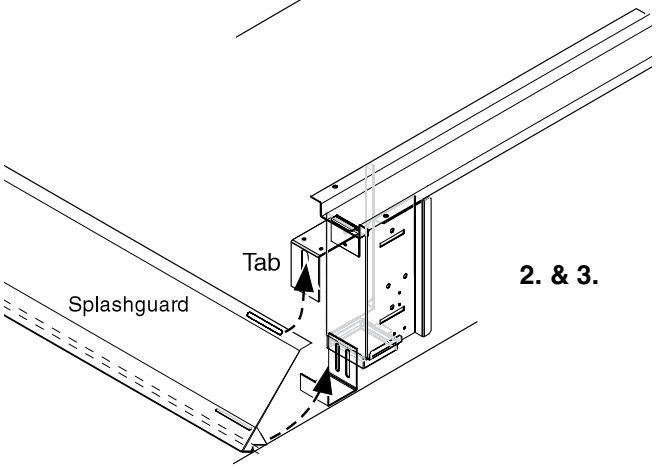
2. Position top of splashguard with the top angled in as shown in the illustration. Align the slots in the upper edge of the splashguard with the tabs extending downward behind the splashguard cover.

3. Engage the slots over the tabs and raise the splashguard while pushing the bottom in.

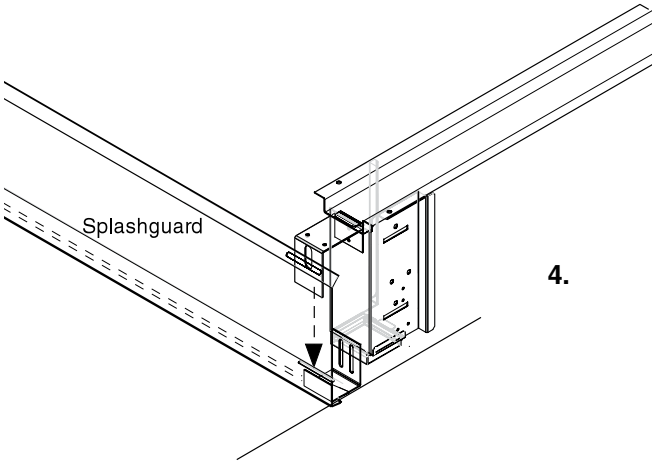
4. Align the tabs on the splashguard brackets with the slots in the bottom edge of the splashguard. Engage the tabs in the slots and drop the splashguard into place.



1.



2. & 3.



4.

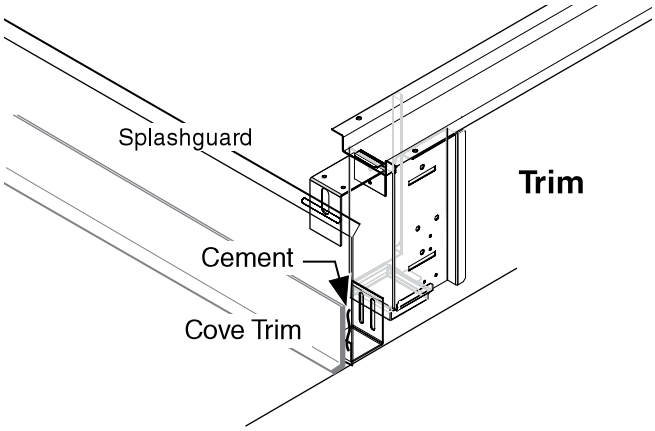
To install the cove trim to the splashguard:

1. Remove all dirt, wax and grease from the area of the splashguard where adhesion will be necessary to ensure a secure installation.

2. Apply a good contact cement to the cove trim and allow proper drying time according to the directions supplied with the cement.

3. Install the trim to the splashguard so that it is lying flush with the floor. DO NOT SEAL THE TRIM TO THE FLOOR.

4. **If required by local health codes** the Cove Trim may be sealed to the floor, using a silicone type sealer. Sealant must be removed and replaced when servicing.



Installing Splashguard on End and End Case

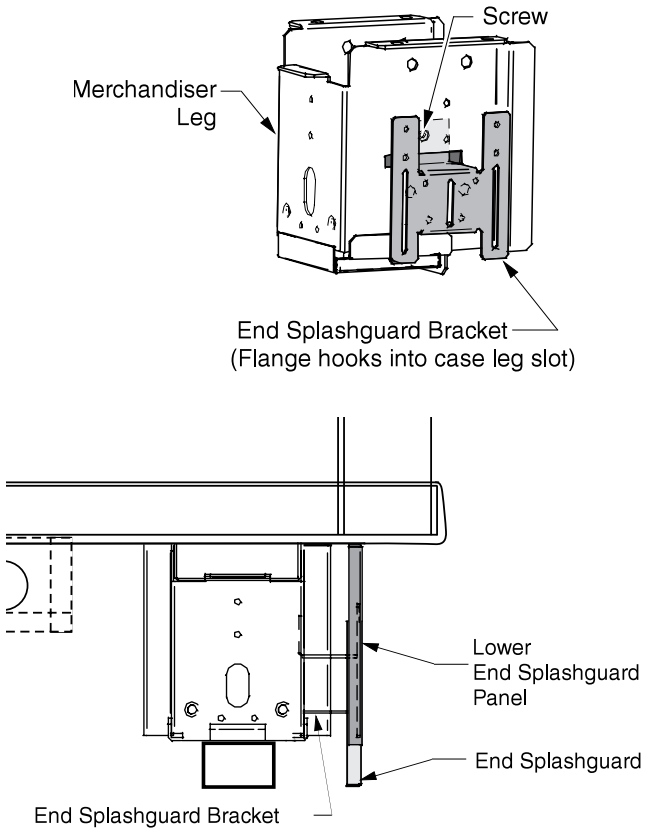
An end splashguard ships with each end assembly. End case splashguards ship with the case. Install end splashguards after main splashguards.

1. Check to be sure that all splashguard brackets are level with the floor.

2. Position top of splashguard with the top angled in, behind the lower panel bracket.

3. Raise the splashguard enough to align the tabs on the splashguard brackets with the slots in the bottom edge of the splashguard. Engage the tabs in the slots and drop the splashguard into place.

Cove trim may be added in the same way as for the main splashguards.



End Splashguard Installed

FRAMES AND GLASS LIDS

FRAME INSTALLATION

FW-L, FWG-L, FWG-LH, FI-L, FIG-L, FN-L and **FNG-L** use two-sided lid frames. **F-L** and **FG-L** are wall cases, and have a one-sided frame. These merchandisers are shipped with a **pre-assembled** lid frame.

FWE-L and **FWEG-L** are used as island end cases, and also have a one-sided lid frame. These merchandisers are shipped with the lid frame **pre-assembled and mounted** to the top of the merchandiser.

ATTENTION: Hussmann does not recommend using a power drill. If using a power drill, Do NOT use more than 2 N/m torque.

INSTALLING TWO-SIDED LID FRAMES:

1. Clean the hand rails of the island merchandisers thoroughly.

2. **MAKE SURE THE ISLAND AND HANDRAILS ARE LEVELED.** If merchandisers are not leveled, see page 1-7 for leveling instructions.

3. Remove wrapping materials from the frame assembly. Clean the frame assemblies thoroughly.

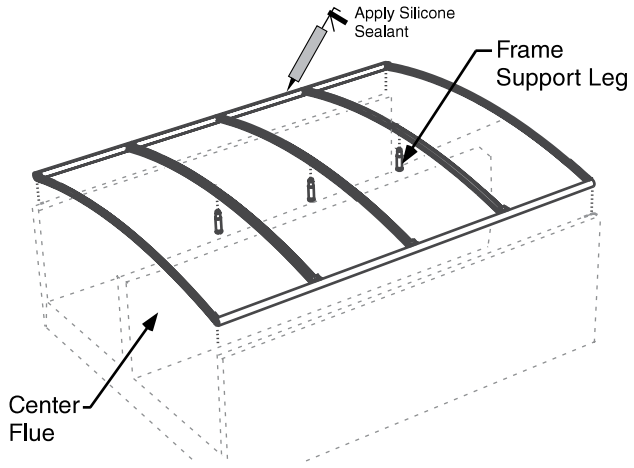
4. Place the two-sided frame on top of the merchandiser, and center the frame to the top of the case. Mark the location with a grease pencil.

5. If the island has a center flue, attach frame supports. The support legs are pressed into the holes under the cross profiles and adjusted using a level.

6. Adjust center frame support height as necessary **so that frame radius matches the glass radius.**

7. Press o-ring down so that it covers the gap between the mounting parts. Apply clear silicone over the o-ring to seal any remaining gap.

8. Apply a thin bead of silicone sealant between top rail and lid frame. Seal both interior and exterior sides.



NOTE: Parts list for one and two-sided frames are on Page 4-11 and 4-6.

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TWO-SIDED LED LIGHT INSTALLATION

1. LED clips and trays are attached with screws in the pre-drilled holes under the cross profiles.

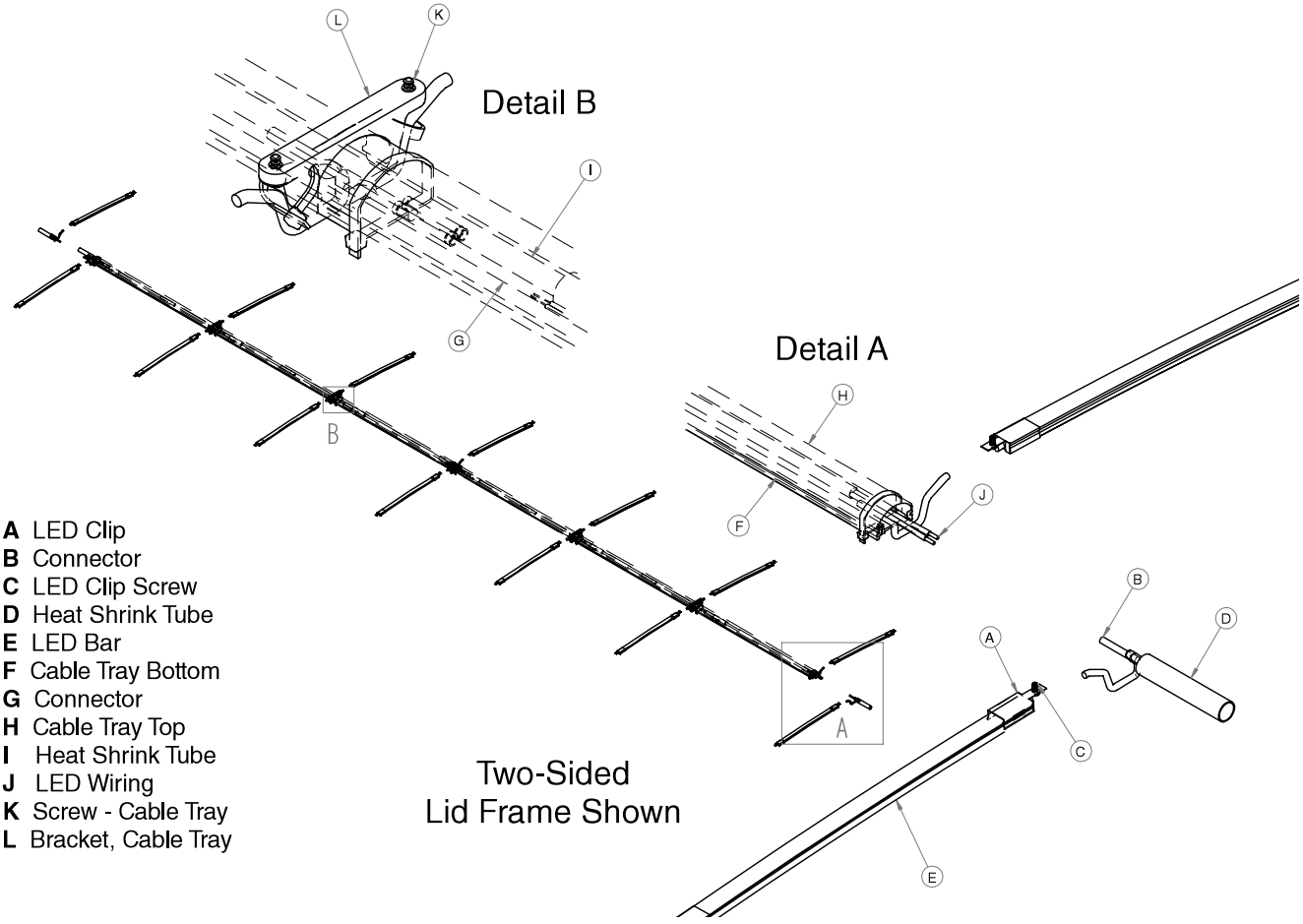
2. Connect LED cords using wire strippers and approved wire connectors.

Wire Stripper

Heat Shrink Butt Terminals

⚠ CAUTION

All wiring must be in compliance with NEC and local codes. All electrical connections are to be made in the electrical wireway or *Handy Box*.



A LED Clip
B Connector
C LED Clip Screw
D Heat Shrink Tube
E LED Bar
F Cable Tray Bottom
G Connector
H Cable Tray Top
I Heat Shrink Tube
J LED Wiring
K Screw - Cable Tray
L Bracket, Cable Tray

Two-Sided Lid Frame Shown

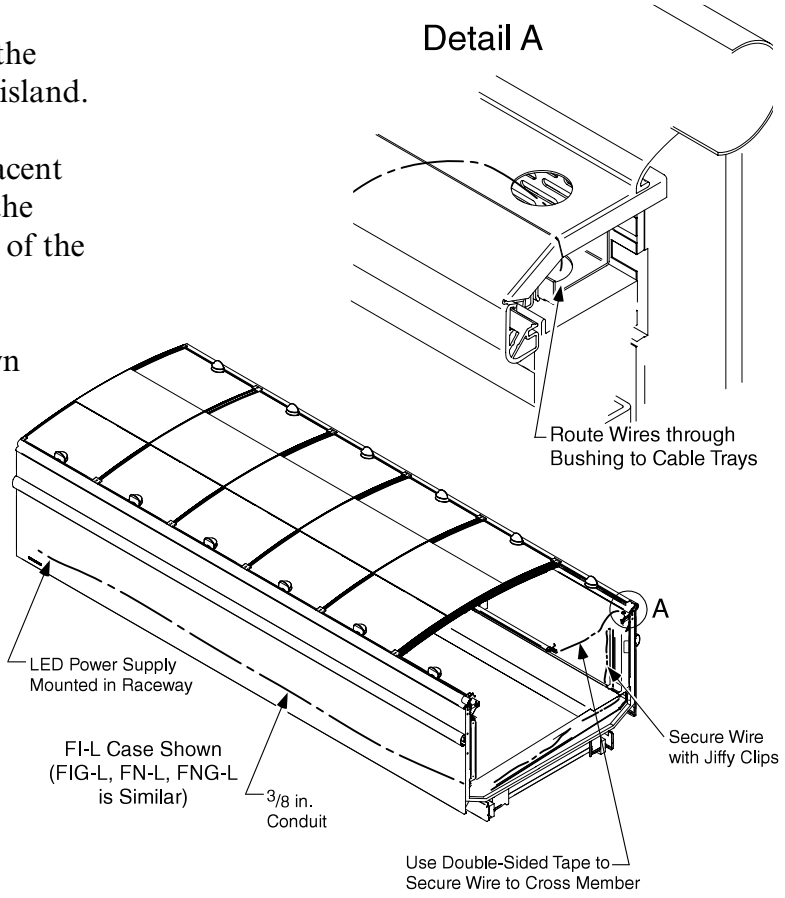
3. Snap the cable trays in the clips.

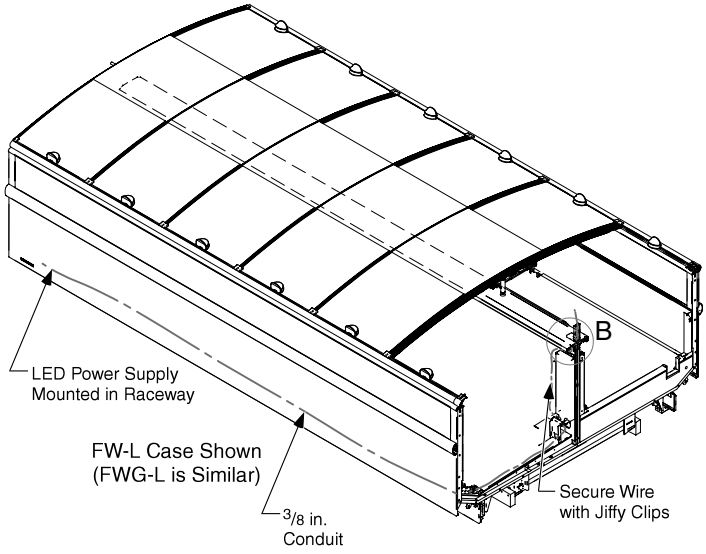
4. Snap the LED bars in place.

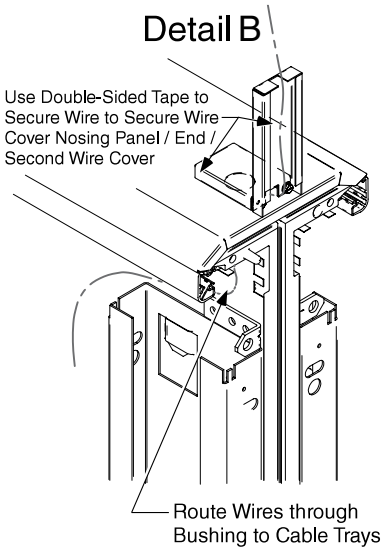
5. Fit the cable into a white tray along the gable and down the air return of the island.

6. To connect LED wiring from an adjacent island merchandiser, drill a hole for the cable, and lead it down the air return of the island.

7. Feed wiring to power supply as shown below.

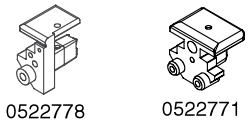

Detail A
Route Wires through Bushing to Cable Trays
A
LED Power Supply Mounted in Raceway
FI-L Case Shown (FIG-L, FN-L, FNG-L is Similar)
3/8 in. Conduit
Secure Wire with Jiffy Clips
Use Double-Sided Tape to Secure Wire to Cross Member



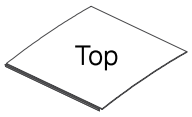

Detail B
Use Double-Sided Tape to Secure Wire to Secure Wire Cover Nosing Panel / End / Second Wire Cover
Route Wires through Bushing to Cable Trays

Curved Two-Sided

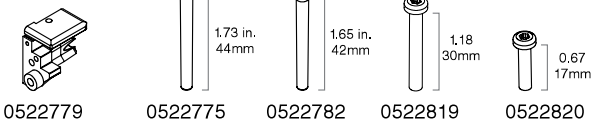
Cover Parts

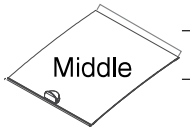


Glass



0524247
0524253 FW6G-L (6ft only)

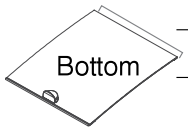




0531273 FI-L
0531274 FI6-L (6ft only)

0532171 FN-L (all lengths)

0524248 FW-L
0524254 FW6G-L (6ft only)



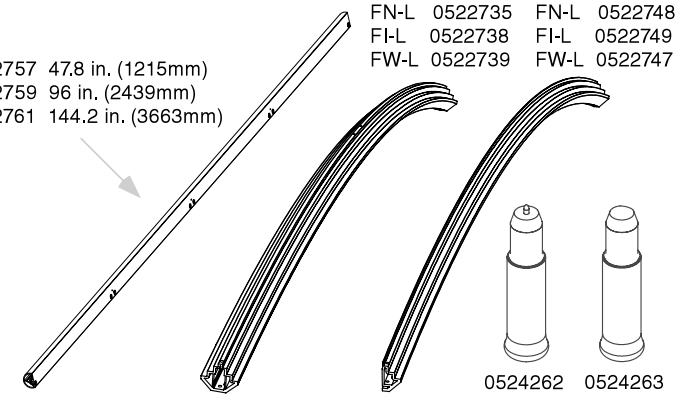
0531269 FI-L
0532170 FI6-L (6ft only)

0532167 FN-L (all lengths)

0524249 FWG-L
0524255 FW6G-L (6ft only)

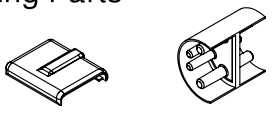
0522757 47.8 in. (1215mm)
0522759 96 in. (2439mm)
0522761 144.2 in. (3663mm)

FN-L 0522735 FN-L 0522748
FI-L 0522738 FI-L 0522749
FW-L 0522739 FW-L 0522747



0524262 0524263

Joining Parts

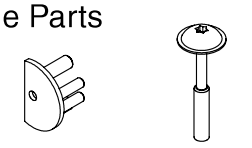


0522784 0522767

FN-L 0522756
FI-L 0522755
FW-L 0522754

FN-L 0522753
FI-L 0522752
FW-L 0522751

Gable Parts

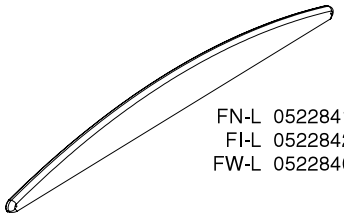


0522843 0522846

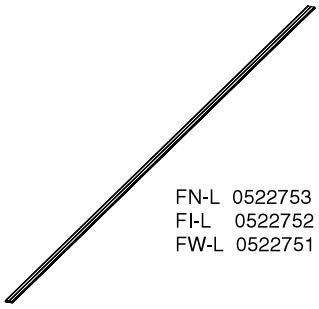
Left 0522844

Right 0522845

FN-L 0522841
FI-L 0522842
FW-L 0522840



FN-L 0522753
FI-L 0522752
FW-L 0522751



PARTS IDENTIFICATION CHART

Hussmann Part #s	Description	Quantities						
		0522019		0521518		0522049		0522050
		FW12L	FW12GL	FW8L	FW8GL	FW4L	FW4GL	FW6GL
0522775	Pin 2	10	10	6	6	2	2	4
0522771	Adapter 2 for side profile	10	10	6	6	2	2	4
0522757	Side profile L:1215,6mm					2	2	
0522778	Adapter right MJ	2	2	2	2	2	2	2
0522782	Pin 3 MJ	4	4	4	4	4	4	4
0522779	Adapter left MJ	2	2	2	2	2	2	2
0522759	Side profile L: 2439,2mm			2	2			
0522761	Side profile L: 3662,8mm	2	2					
0522738	Cross profile 2, Prepared for LED and Pricerail	5	5	3	3	1	1	2
0522752	Guide profile MJ L:1289mm							
0522751	Guide profile MJ L:1881,2mm	1	1	1	1	1	1	1
0522754	T-Profile MJ L:1975,2mm	1	1	1	1	1	1	1
0522767	Connector side profile MJ	2	2	2	2	2	2	2
0522784	Cap, adapter MJ	2	2	2	2	2	2	2
0522819	Screw, WN 1452 K 4x30	10	10	6	6	2	2	4
0522820	Screw, WN 1452 K 4x30, processed	4	4	4	4	4	4	4
0522747	Cross profile one sided MJ, Prepared for LED,	2	2	2	2	2	2	2
0524247	Top glass 2-sided - Assembly	6	6	4	4	2	2	
0524248	Middle glass 2-sided - Assembly	6	6	4	4	2	2	
0524249	Bottom glass 2-sided - Assembly	6	6	4	4	2	2	
0524253	Top glass 2-sided - Assembly							3
0524254	Middle glass 2-sided - Assembly							3
0524255	Bottom glass 2-sided - Assembly							3
0524262	Support Leg - Assembly	5	5	3	3	1	1	3
0524263	Support Leg, MJ - Assembly	1	1	1	1	1	1	1

Hussmann Part #s	Description	Quantities				
		0522063		0522064		0522065
		FI12L	FI12GL	FI8L	FI8GL	FI6L
0522775	Pin 2	10	10	6	6	4
0522771	Adapter 2 for side profile	10	10	6	6	4
0522778	Adapter right MJ	2	2	2	2	2
0522782	Pin 3 MJ	4	4	4	4	4
0522779	Adapter left MJ	2	2	2	2	2
0522759	Side profile L: 2439,2mm			2	2	
0522761	Side profile L: 3662,8mm	2	2			
0522739	Cross profile 2, Prepared for LED and Pricerail, L:1333mm	5	5	3	3	2
0522752	Guide profile MJ L:1289mm	1	1	1	1	1
0522767	Connector side profile MJ	2	2	2	2	2
0522784	Cap, adapter MJ	2	2	2	2	2
0522819	Screw, WN 1452 K 4x30	10	10	6	6	4
0522820	Screw, WN 1452 K 4x30, processed	4	4	4	4	4
0522749	Cross profile one sided MJ, Prepared for LED, L:1333mm	2	2	2	2	2
0522755	T-Profile MJ L: 1383mm	2	2	2	2	1
0531273	Middle glass 2-sided - Assembly	6	6	4	4	
0531269	Bottom glass 2-sided - Assembly	6	6	4	4	
0531274	Middle glass 2-sided - Assembly					3
0532170	Bottom glass 2-sided - Assembly					3
0524264	alu. Reinforcement, 30x10mm, L: 1277mm	5	5	3	3	2
0524265	alu. Reinforcement, 15x10mm, L: 1277mm	2	2	2	2	2

		Quantities						
		0522057		0522058		0522055	0522056	0522529
Hussmann Part #s	Description	FN12L	FN12GL	FN8L	FN8GL	FN6L	FN10GL	FN4L
0522775	Pin 2	10	10	6	6	4	8	2
0522771	Adapter 2 for side profile	10	10	6	6	4	4	2
0522757	Side profile L:1215,6mm							2
0522778	Adapter right MJ	2	2	2	2	2	2	2
0522782	Pin 3 MJ	4	4	4	4	4	4	4
0522779	Adapter left MJ	2	2	2	2	2	2	2
0522759	Side profile L: 2439,2mm			2	2			
0522761	Side profile L: 3662,8mm	2	2					
0522767	Connector side profile MJ	2	2	2	2	2	2	2
0522784	Cap, adapter MJ	2	2	2	2	2	2	2
0522735	Cross profile 2, Prepared for LED and Pricerail, L:956,6mm	5	5	3	3	2	4	1
0522819	Screw, WN 1452 K 4x30	10	10	6	6	4	10	2
0522820	Screw, WN 1452 K 4x30, processed	4	4	4	4	4	4	4
0522753	Guide profile MJ L:912,6mm	1	1	1	1	1	1	1
0522756	T-Profile MJ L:1006,6mm	1	1	2	2	2	1	1
0522748	Cross profile one sided MJ, Prepared for LED, L:956,6mm	2	2	2	2	2	2	2
0532171	Middle glass 2-sided - Assembly	6	6	4	4		5	2
0532167	Bottom glass 2-sided - Assembly	6	6	4	4		5	2
0532172	Middle glass 2-sided - Assembly					3		
0532168	Bottom glass 2-sided - Assembly					3		

Ensure a thin bead of silicone is applied between the top rail of the case and the lid frame before installing glass. Seal both the interior and exterior sides.

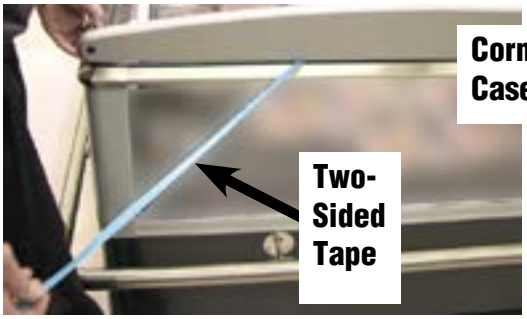
INSTALLING TWO-SIDED GLASS PANES

1. Unpack all of the glass panes. Always wear eye protection and gloves when handling glass. Make sure the glass panes are clean before installing.

2. Install the corner glass pieces first. Measure glass panes. Fit glass into tracks. Adjust the frame until the sliding glasses all glide effortlessly.

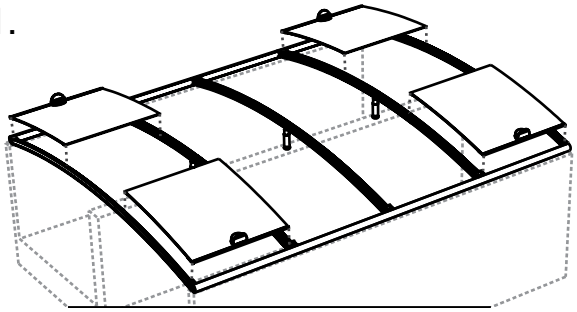
Important: If the frame is not mounted correctly, glasses will be unable to glide.

3. Remove the double-sided tape covering the bottom of the frame starting at the corners of the case. Align frame to grease pencil markings. Gently press the frame onto the merchandiser's top rails. **Important:** Detach 1 in. (25 cm) of tape on all sides before attaching the frame as shown in the photo, below.

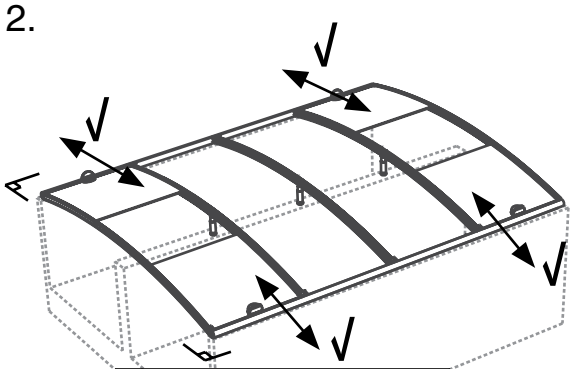


NOTE: Glass panes are of different sizes, and fit into separate tracks, so they do not collide when sliding. Refer to parts list on Page, 4-4.

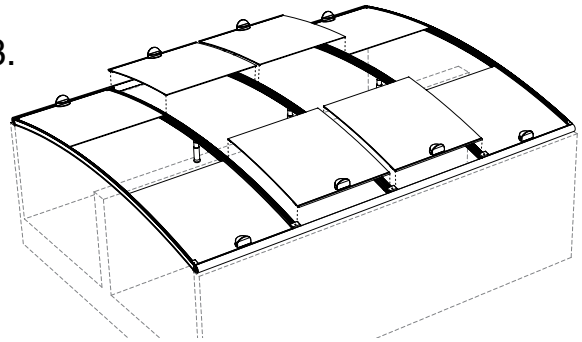
1.



2.



3.



⚠ CAUTION

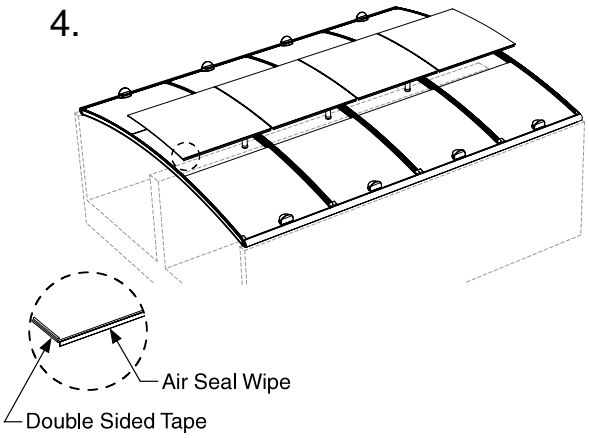
AVOID SERIOUS PERSONAL INJURY. Use caution when handling glass. Always wear protective eye wear and gloves when handling glass. Wet or damp glass may be slippery.

4. **For FW-L, FWG-L, FWG-LH Cases only** — Place the center glass panes. Make sure the middle glass is centered between the two outer panes (curved two-sided). There should be about a half-inch overlap.

NOTE: Center glass has different sealings. If in doubt about how glass fits, trial fit the glass without removing the double-sided tape.

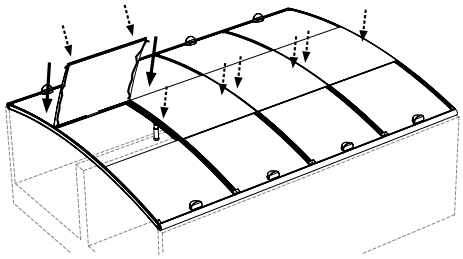
5. Remove double-sided tape paper from the center glass panes, starting at the corners. Press glass pane down for proper tape adhesion.

4.

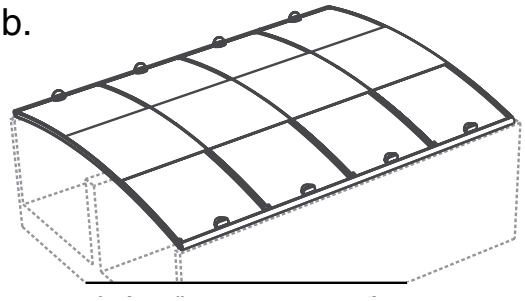


The air seal wipes have two sizes. The **tallest air seal wipe** fits on the lid side that slides on the **bottom track.**

5a.



5b.



INSTALLING PRICE TAG MOUNDING

One-sided and two-sided lids may have an optional price profile. The price profile is placed along the centerline of the sliding glass lids.

1. The feet are fitted in the holes on the cross profiles.

2. The price profiles are placed on the feet, leveled with the inside of the gables.

3. End caps are placed on the price profile.

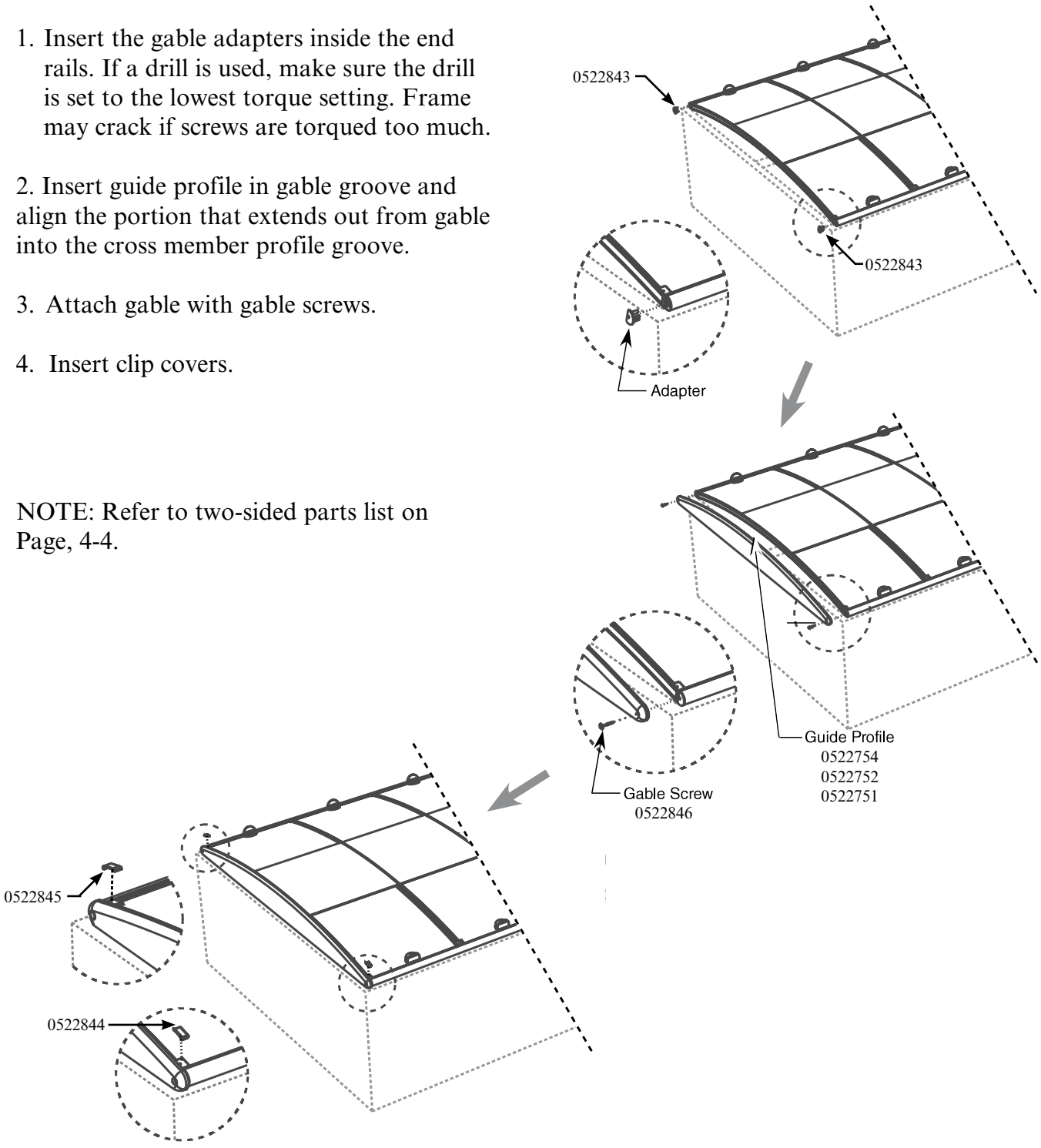
ATTACHING GABLES -TWO SIDED

1. Insert the gable adapters inside the end rails. If a drill is used, make sure the drill is set to the lowest torque setting. Frame may crack if screws are torqued too much.

2. Insert guide profile in gable groove and align the portion that extends out from gable into the cross member profile groove.

3. Attach gable with gable screws.

4. Insert clip covers.



NOTE: Refer to two-sided parts list on Page, 4-4.

ATTACHING GABLES -ONE SIDED

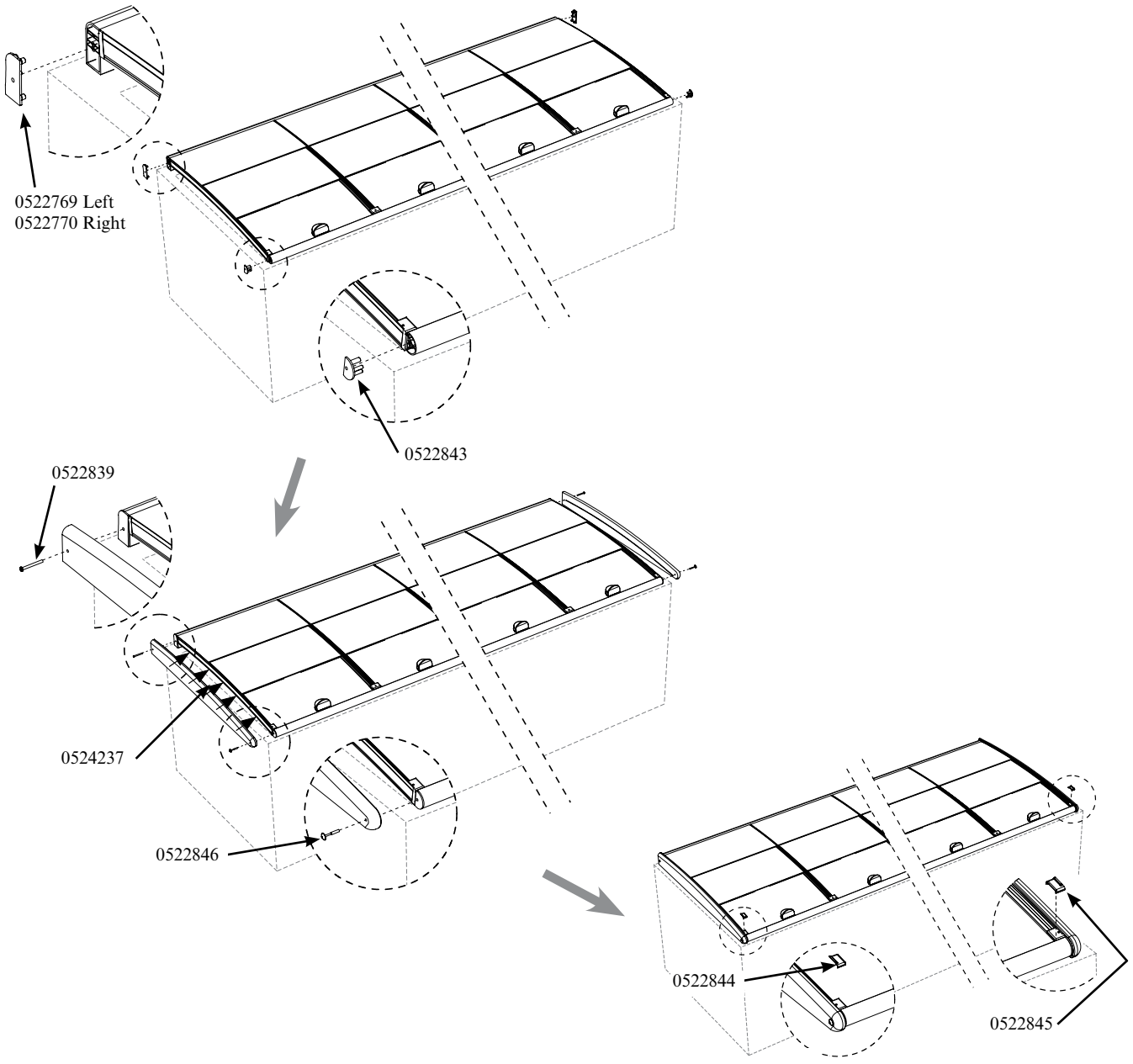
1. Insert the gable adapters inside the end rails. If a drill is used, make sure the drill is set to the lowest torque setting. Frame may crack if screws are torqued too much.

2. Insert guide profile in gable groove and align the portion that extends out from gable into the cross member profile groove.

3. Attach gable with gable screws.

4. Insert clip covers.

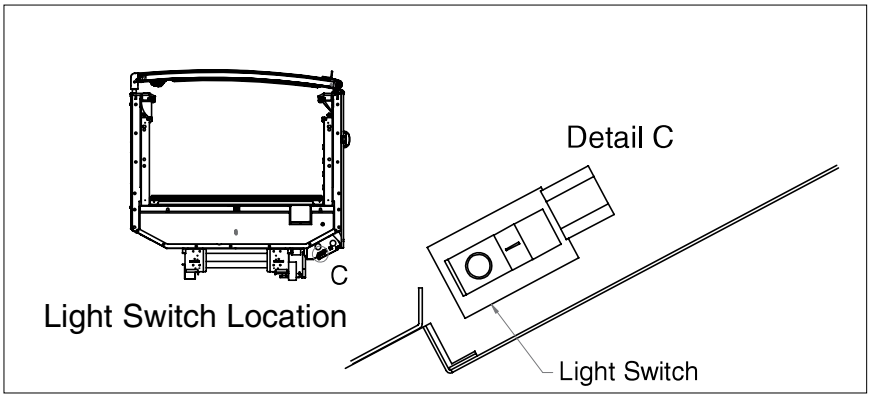
NOTE: Refer to one-sided parts list on Page, 4-13.

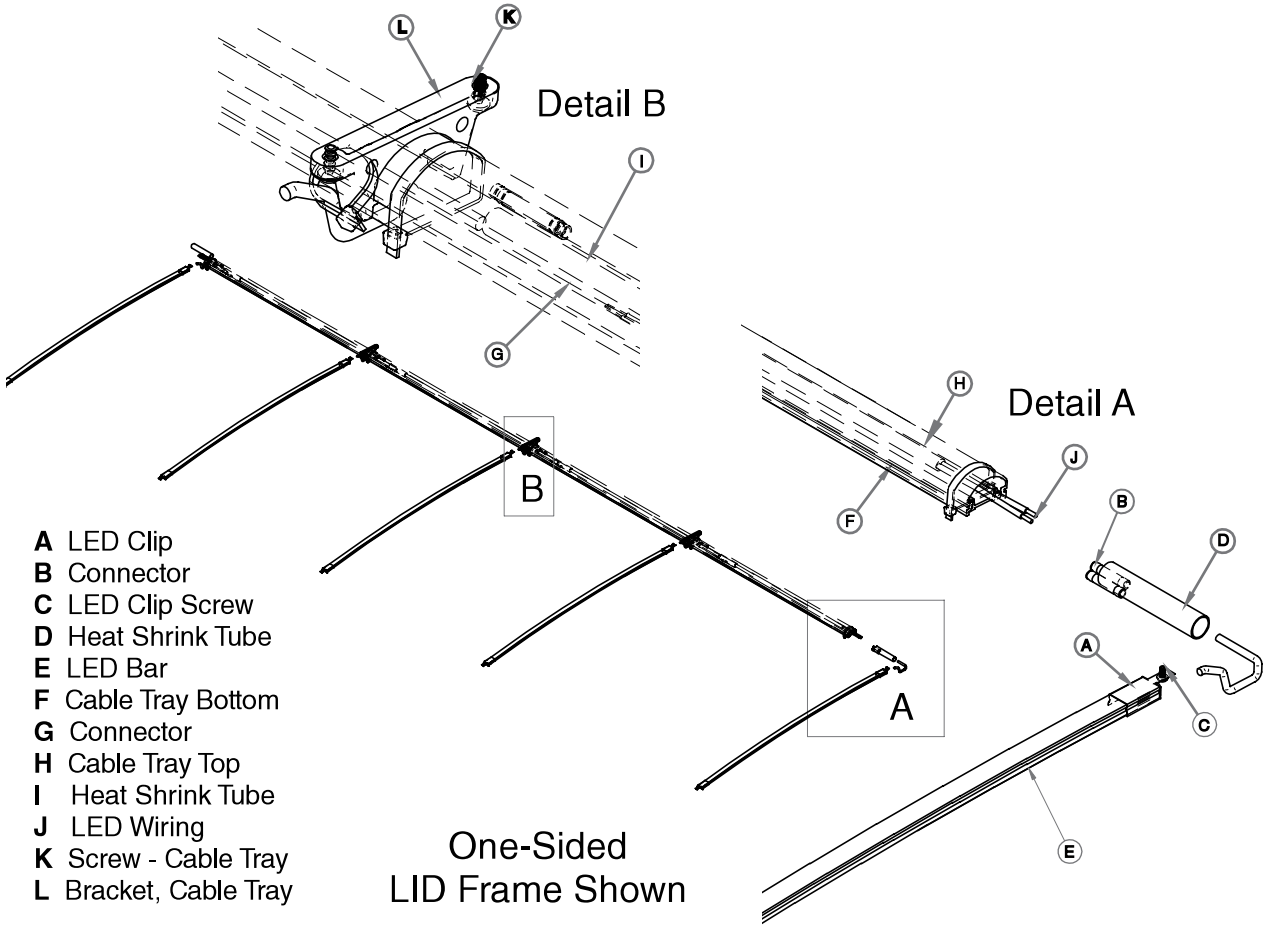


LED LIGHT INSTALLATION - ONE-SIDED

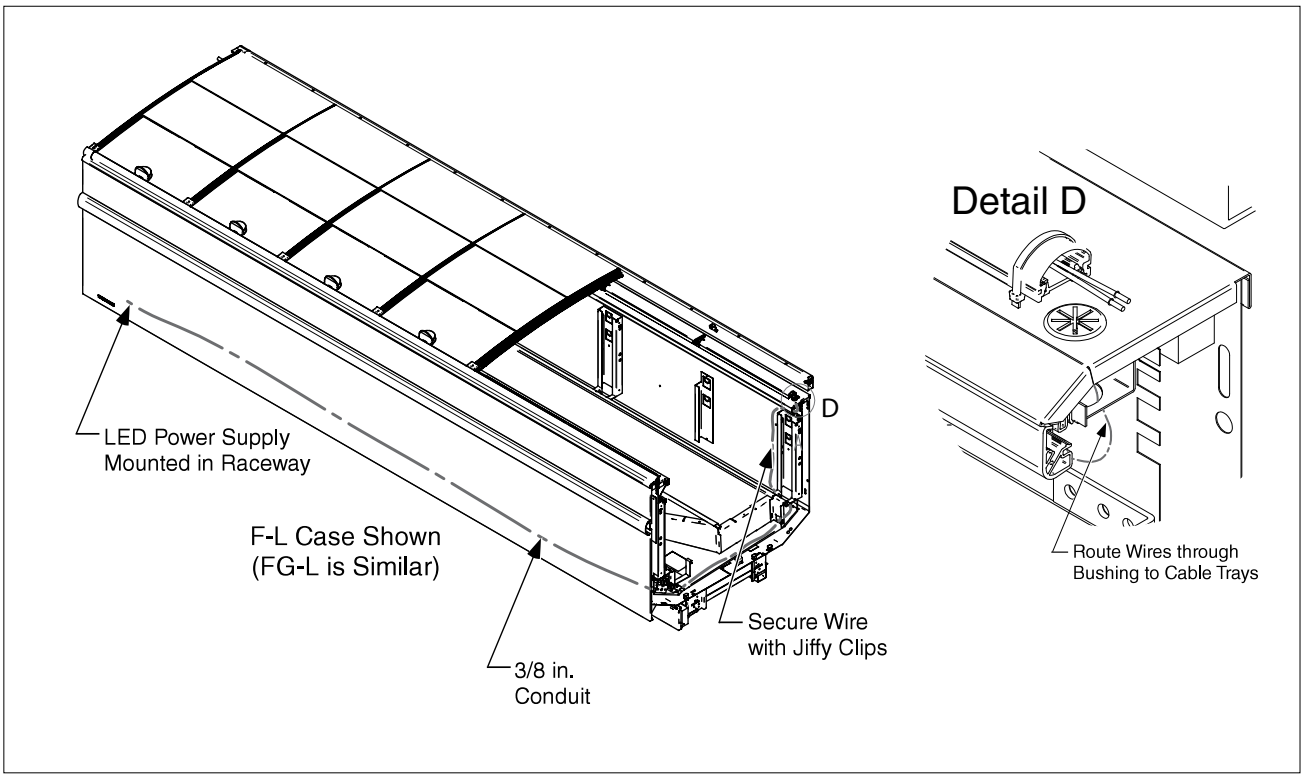
LED light bars are pre-installed for island end merchandisers.

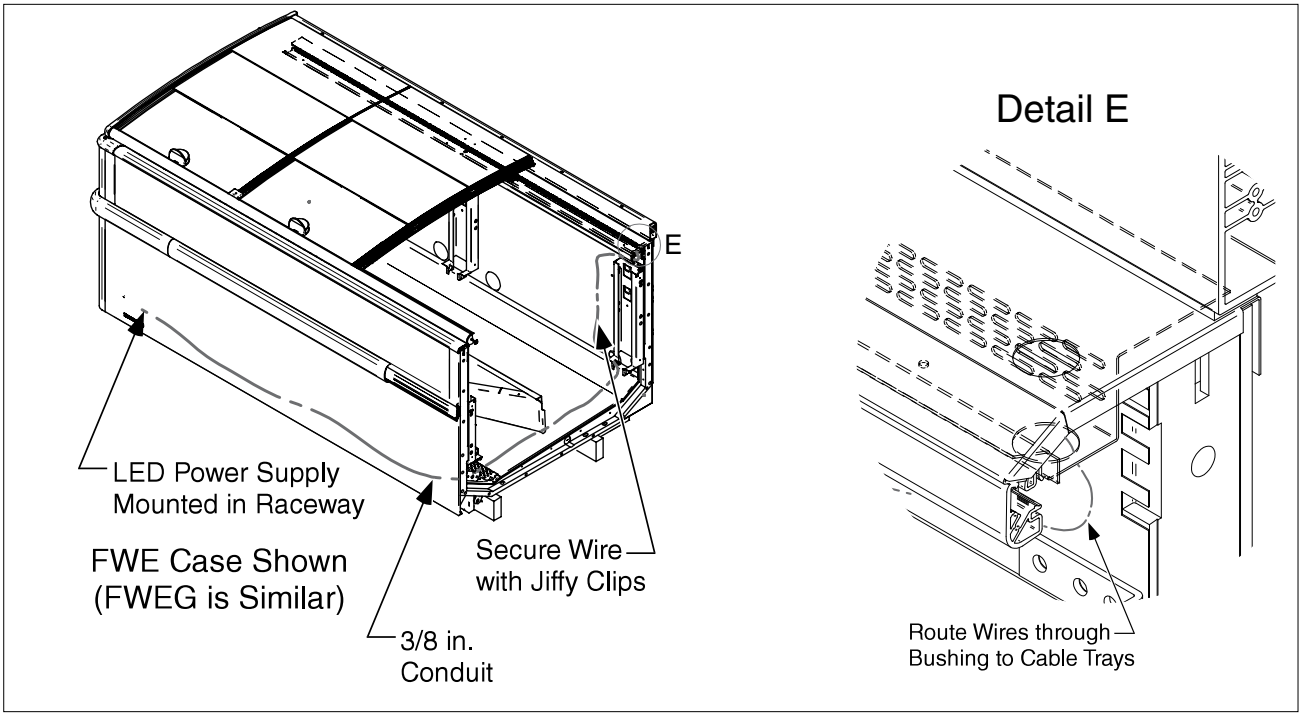
1. Turn the lights on and off to check the switch and ensure all LEDs are in good working order.





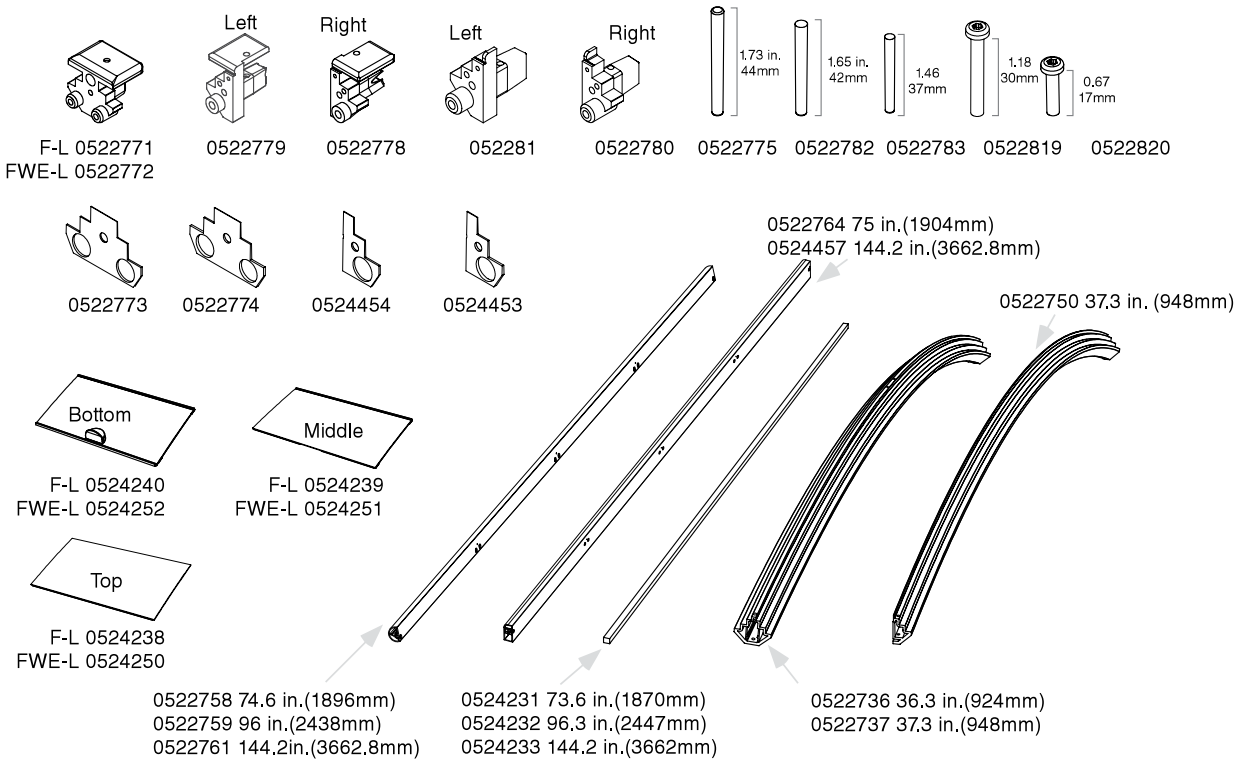
2. Inspect the LEDs installation and wiring. All wiring should be secured using jiffy clips or secured with double-sided tape.



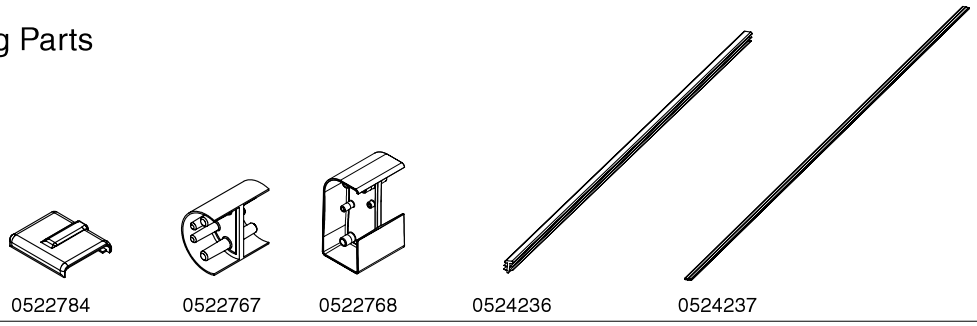


Curved One-Sided

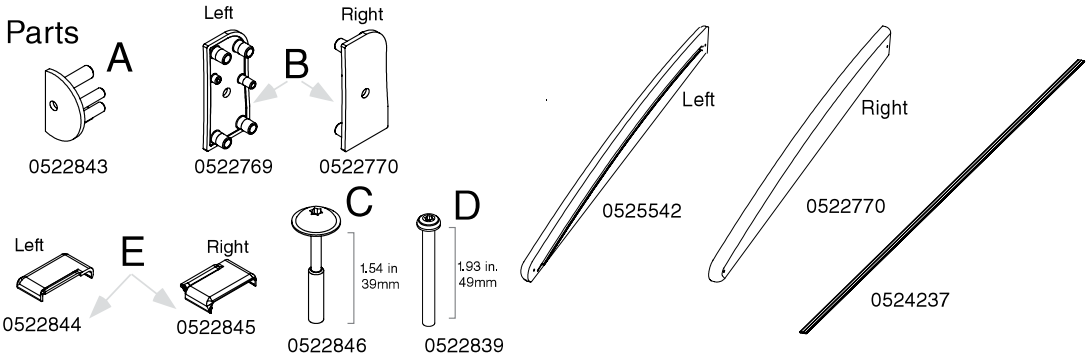
Cover Parts



Joining Parts



Gable Parts



PARTS IDENTIFICATION CHART

Hussmann Part #s	Description	Quantities	
		FWEL	FWEGL
0522775	Pin 2	4	4
0522771	Adapter 2 for side profile	2	2
0522772	Adapter 2 for back profile	2	2
0522764	Back profile L: 1904,0mm	1	1
0524234	Right Gable w. cross profile - assembly	1	1
0524235	Left Gable w. cross profile - assembly	1	1
0522758	Side profile L: 1896,0mm	1	1
0522763	End cap for side profile	2	2
0522773	Wedge 1,2mm	2	2
0522774	Wedge 1,7mm	2	2
0522736	Cross profile 2, Prepared for LED and Pricerail, L: 924,1mm	2	2
0522838	Screw, Z1451 K 5x40	2	2
0522819	Screw, WN 1452 K 4x30	4	4
0522839	Screw, M4x50	2	2
0524231	Fill strip L:1870	1	1
0524250	Top glass 1-sided - Assembly	3	3
0524251	Middle glass 1-sided - Assembly	3	3
0524252	Bottom glass 1-sided - Assembly	3	3

Hussmann Part #s	Description	Quantities			
		0522061		0522062	
		F12L	F12GL	F8L	F8GL
0522775	Pin 2	10	10	6	6
0522771	Adapter 2 for side profile	5	5	3	3
0522772	Adapter 2 for back profile	5	5	3	3
0522778	Adapter right MJ	1	1	1	1
0522782	Pin 3 MJ	2	2	2	2
0522779	Adapter left MJ	1	1	1	1
0522759	Side profile L: 2439,2mm			1	1
0522761	Side profile L: 3662,8mm	1	1		
0524236	T-Profile MJ L: 998,3mm	1	1	2	2
0522767	Connector side profile MJ	1	1	1	1
0522774	Wedge 1,7mm	10	10	6	6
0524237	Guide profile MJ L:904,3mm	1	1	1	1
0522784	Cap, adapter MJ	1	1	1	1
0522819	Screw, WN 1452 K 4x30	10	10	6	6
0522820	Screw, WN 1452 K 4x30, processed	4	4	4	4
0522737	Cross profile 2, Prepared for LED and Pricerail, L:948,3mm	5	5	3	3
0522768	Connector back profile MJ	1	1	1	1
0522780	Adapter right MJ, processed	1	1	1	1
0522781	Adapter left MJ, processed	1	1	1	1
0524232	Fill strip L:2447,2			1	1
0524233	Fill strip L:3670,8	1	1		
0524238	Top glass 1-sided - Assembly	6	6	4	4
0524239	Middle glass 1-sided - Assembly	6	6	4	4
0524240	Bottom glass 1-sided - Assembly	6	6	4	4
0522750	Cross profile one sided MJ, Prepared for LED (nb 4 holes), L:948,3mm	2	2	2	2
0524453	Wedge 1,7mm MJ	1	1	1	1
0524454	Wedge 1,2mm MJ	1	1	1	1
0524457	Back profile L: 3662,8mm	1	1		
0522773	Wedge 1,2mm	10	10	6	6

Ensure a thin bead of silicone is applied between the top rail of the case and the lid frame before installing glass. Seal both the interior and exterior sides.

INSTALLING ONE-SIDED GLASS PANES

1. Clean the hand rails of the island merchandisers thoroughly.

2. **MAKE SURE THE ISLAND AND HANDRAILS ARE LEVELED.** If merchandisers are not leveled, see page 1-7 for leveling instructions.

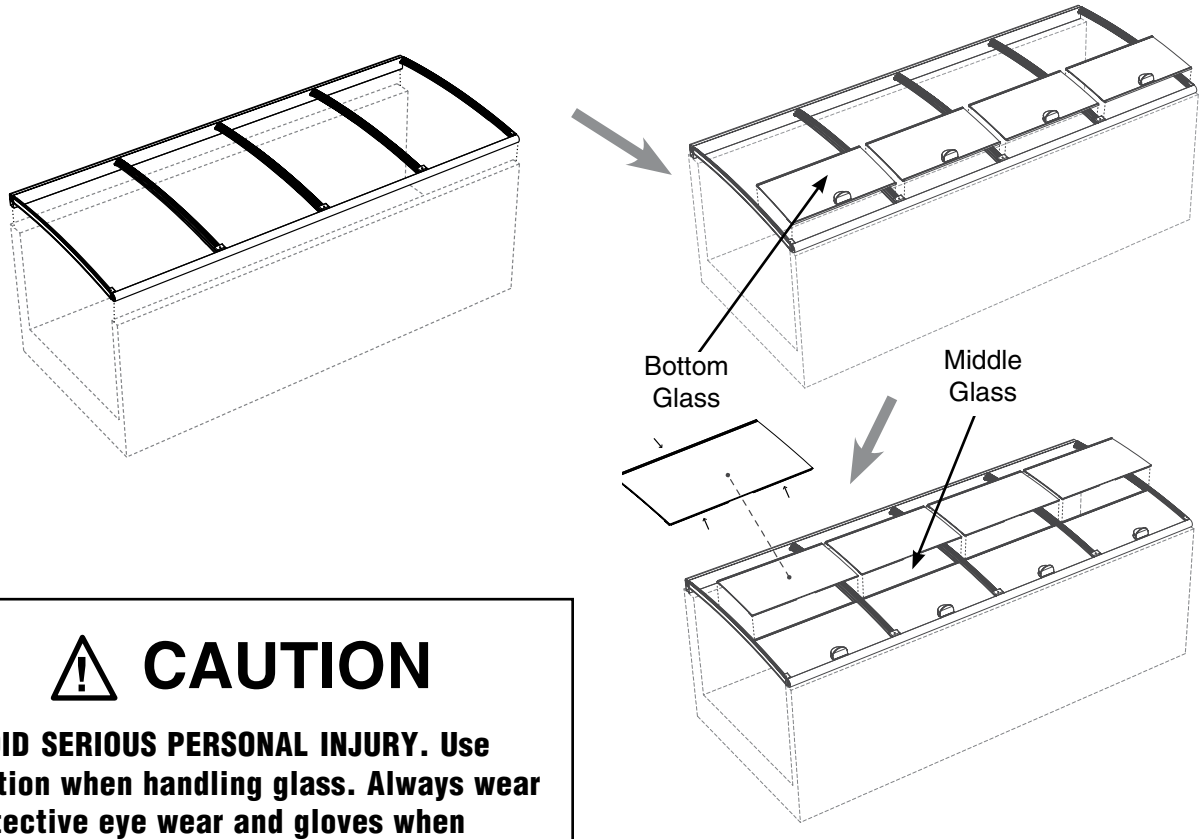
3. Remove wrapping materials from the frame assembly. Clean the frame assemblies thoroughly.

4. Place the one-sided frame on top of the merchandiser, and center the frame to the top of the case. Mark the location with a grease pencil.

5. Unpack all of the glass panes. Always wear eye protection and gloves when handling glass. Make sure the glass panes are clean before installing.

6. Install the sliding glass pieces first. Measure glass panes. Glass fits into tracks.

Refer to parts list on Page, 4-13.



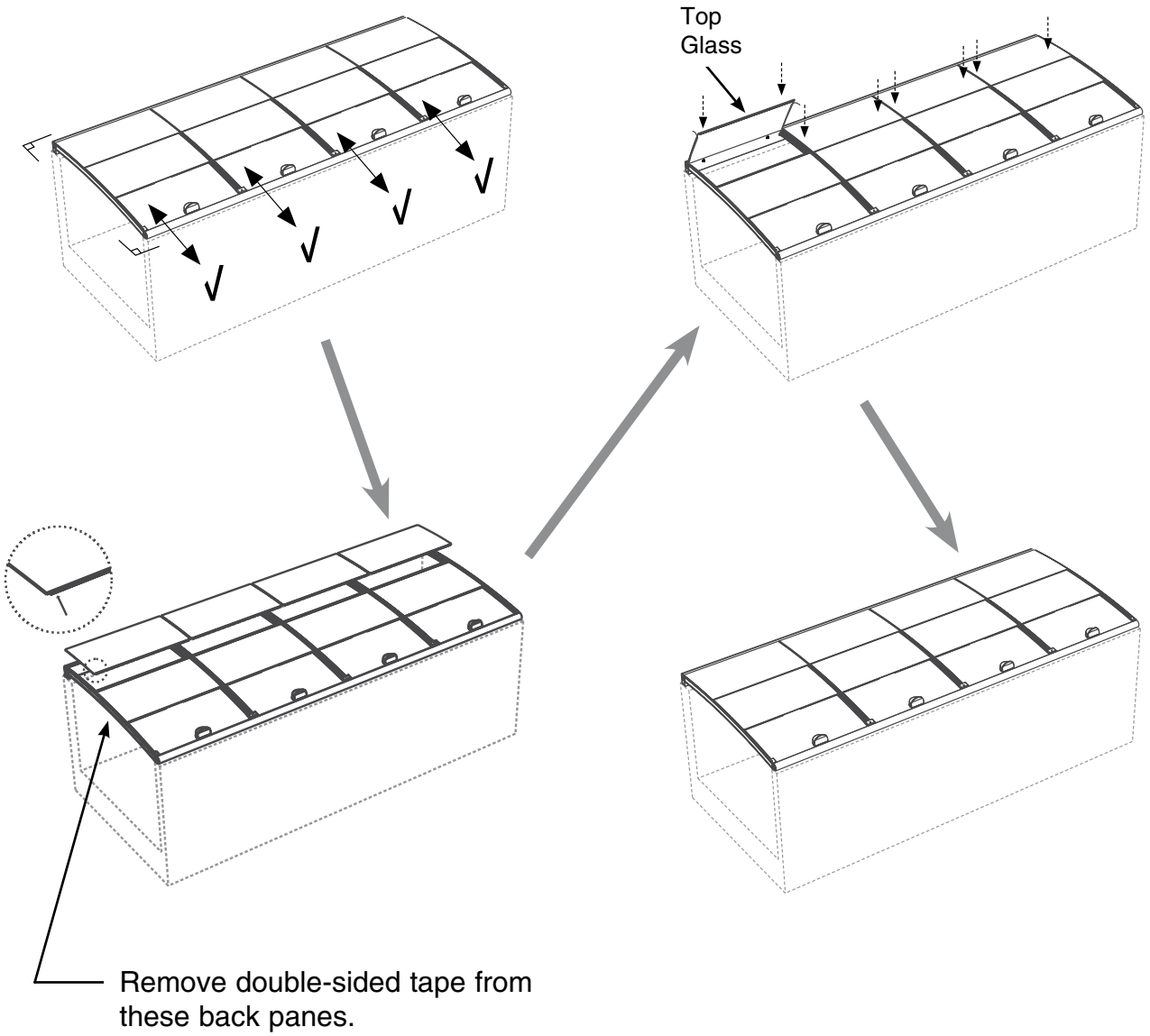
⚠ CAUTION

AVOID SERIOUS PERSONAL INJURY. Use caution when handling glass. Always wear protective eye wear and gloves when handling glass. Wet or damp glass may be slippery.

7. Adjust the frame until the sliding glasses all glide effortlessly.

NOTE: If the frame is not mounted correctly, glasses will be unable to glide.

8. Place the back glass panes last. Remove double sided tape paper from the glass panes. Press glass pane down for proper tape adhesion.



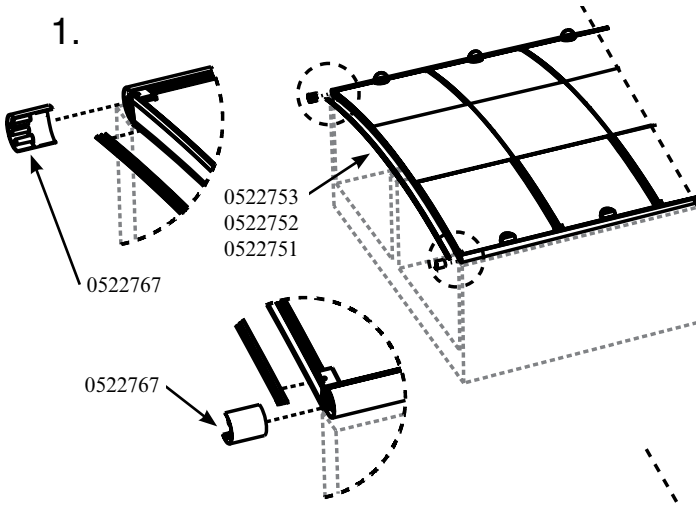
JOINING LID FRAMES - TWO-SIDED

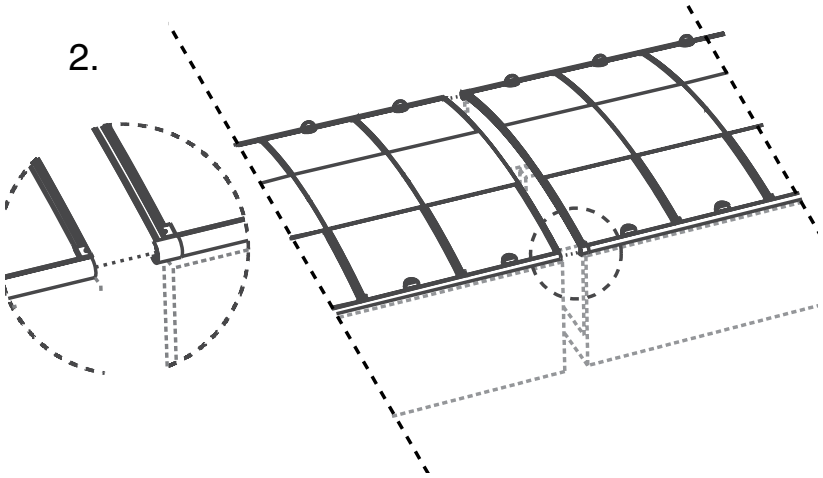
1. Insert the joining adapters between the end rail and the joining rail.

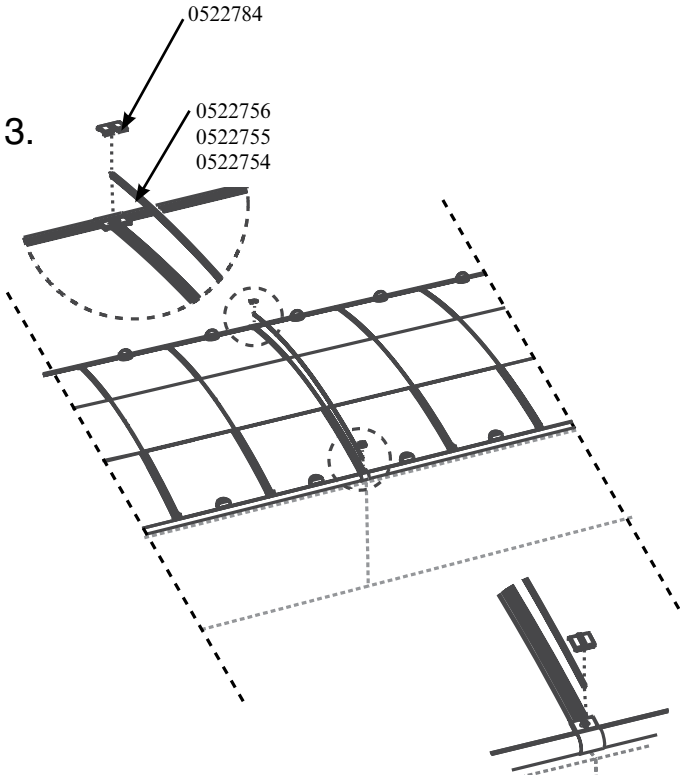
2. If a drill is used, make sure the drill is set to the lowest torque setting. Frame may crack if screws are torqued too much.

3. Place slimmer rail over joining rail, and fit slim rail inside the adapter. Insert clip covers.

Refer to parts list on Page, 4-4.







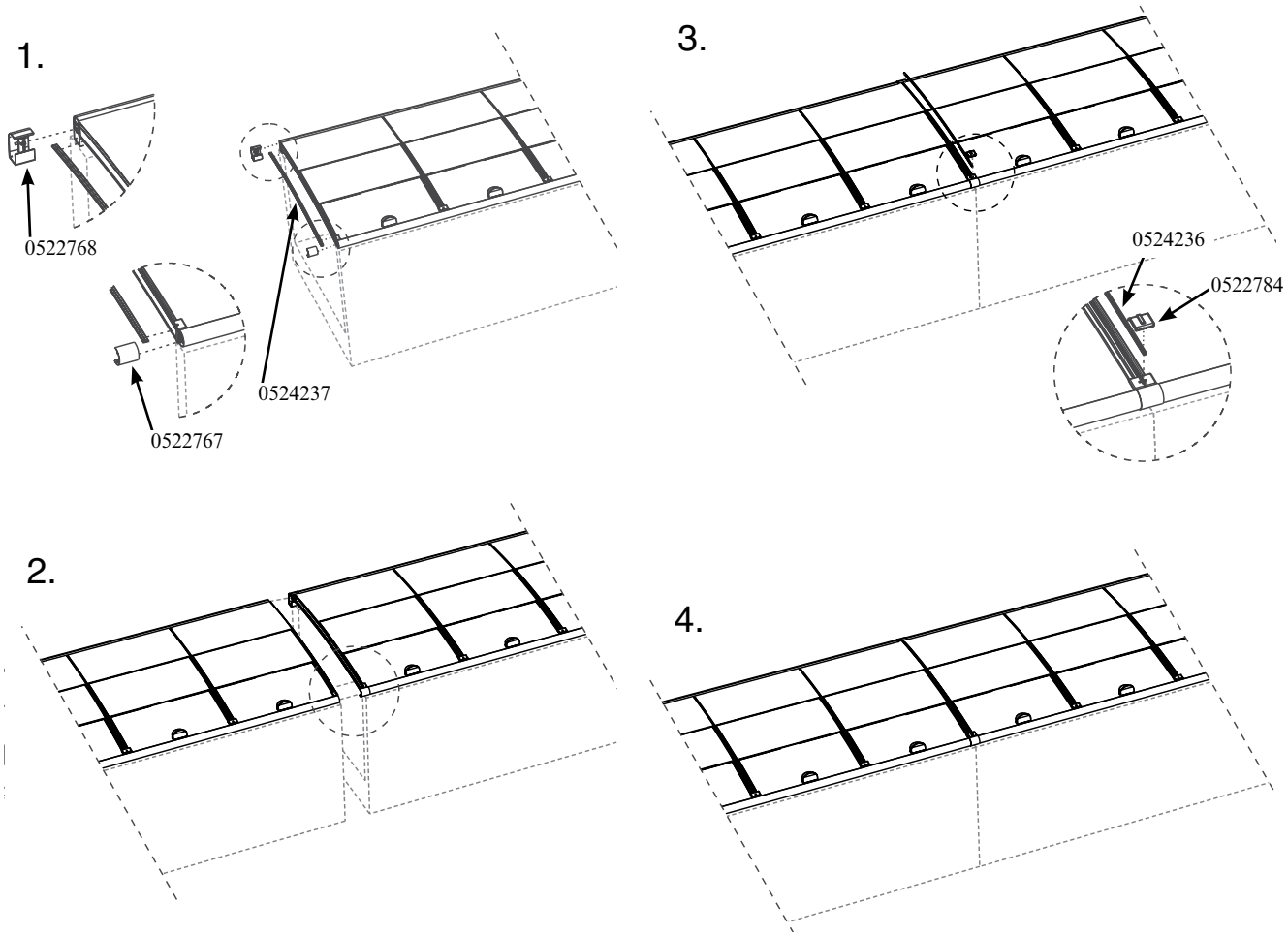
JOINING LID FRAMES - ONE-SIDED

1. Insert the joining adapters between the end rail and the joining rail.

2. If a drill is used, make sure the drill is set to the lowest torque setting. Frame may crack if screws are torqued too much.

3. Place slimmer rail over joining rail, and fit slim rail inside the adapter. Insert clip covers.

Refer to parts list on Page, 4-13.



START UP / OPERATION

START UP

See the merchandiser's Data Sheet for refrigerant settings and defrost requirements. Bring the merchandiser down to the operating temperatures listed on the data sheet.

STOCKING

PRODUCT SHOULD NOT BE PLACED IN MERCHANDISERS UNTIL MERCHANDISER IS AT PROPER OPERATING TEMPERATURE.

Proper rotation of product during stocking is necessary to prevent product loss. Always bring the oldest product to the front and set the newest to the back.

AIR DISCHARGE AND RETURN FLUES MUST REMAIN OPEN AND FREE OF OBSTRUCTION AT ALL TIMES to provide proper refrigeration and air curtain performance. Do not allow product, packages, signs, etc. to block these grilles. Do not use non-approved shelving, baskets, display racks, or any accessory that could hamper air curtain performance.

⚠ CAUTION

At no time should merchandisers be stocked beyond the load limits indicated. Improper stocking can cause poor performance that results in spoiled food.

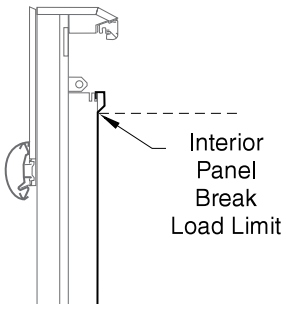
LOAD LIMITS

Each merchandiser has a load limit decal.

LOAD LIMIT

SHELF LIFE OF PERISHABLES WILL BE SHORT IF LOAD LIMIT IS VIOLATED. OVERSTOCKING WILL ADVERSELY AFFECT PRODUCT TEMPERATURE AND MERCHANDISER EFFICIENCY. THE LOAD LIMIT IS THE BOTTOM OF THE INTERIOR PANEL BREAK. RECOMMENDED LOAD LIMIT PROFILES ARE SHOWN ON THE NEXT PAGE.

THE LOAD LIMIT OF THE MERCHANDISER MUST ALWAYS BE MAINTAINED. IF THE MERCHANDISER IS OVER STACKED THE GLASSES WILL NOT CONDENSATE.



INSTALLING FDA/NSF REQUIRED THERMOMETER

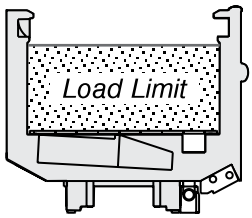
The following pages provide the same information that ships with the thermometer.

This requirement does not apply to display refrigerators intended for bulk produce. (refer to page 1-1).

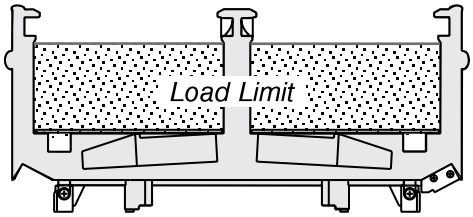
Please note that the tape cannot be exposed after installation.

LOAD LIMIT PROFILES

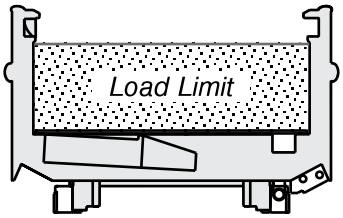
F
FWE



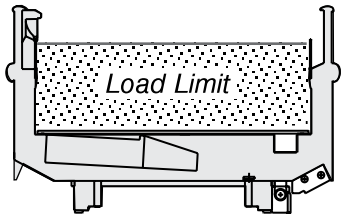
FW



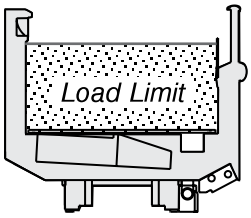
FN
FI



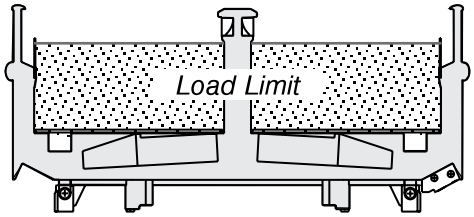
FNG
FIG



FG
FWEG



FWG



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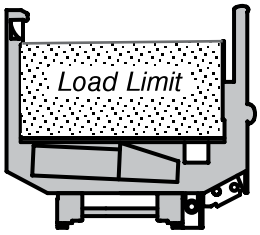
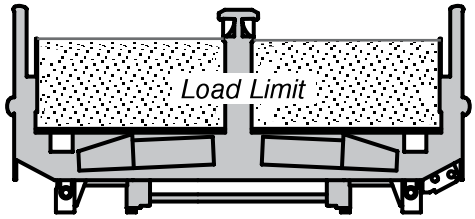
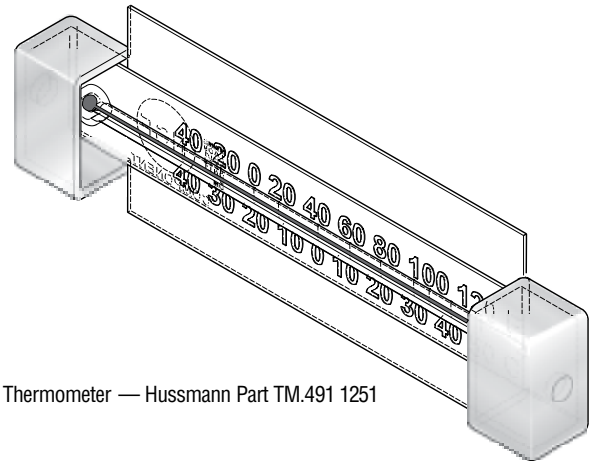


FWGH

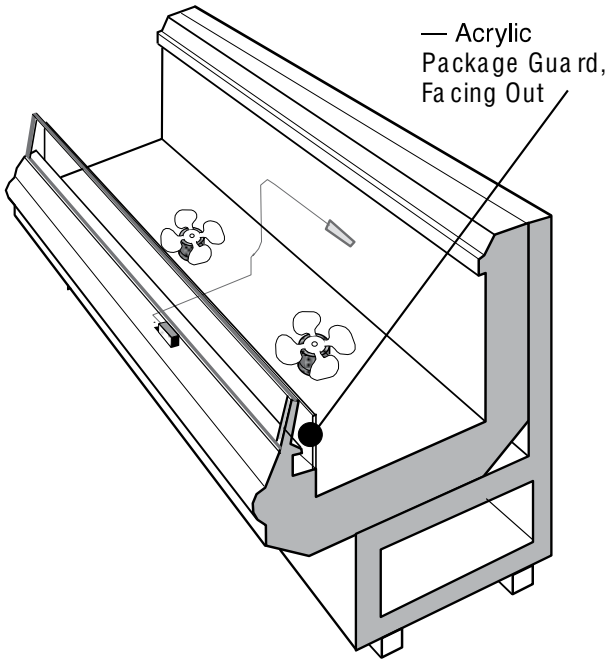


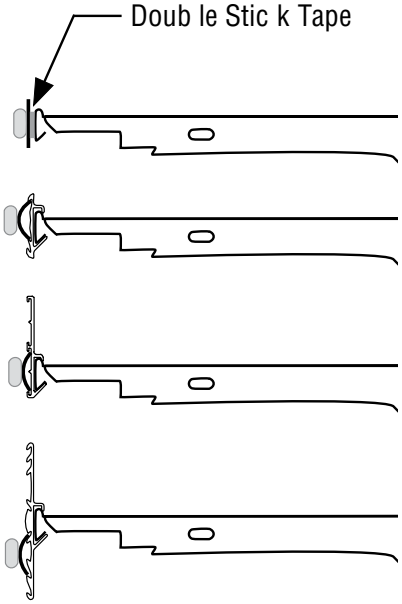
This is an NSF-7 & US FDA Food Code Required Thermometer



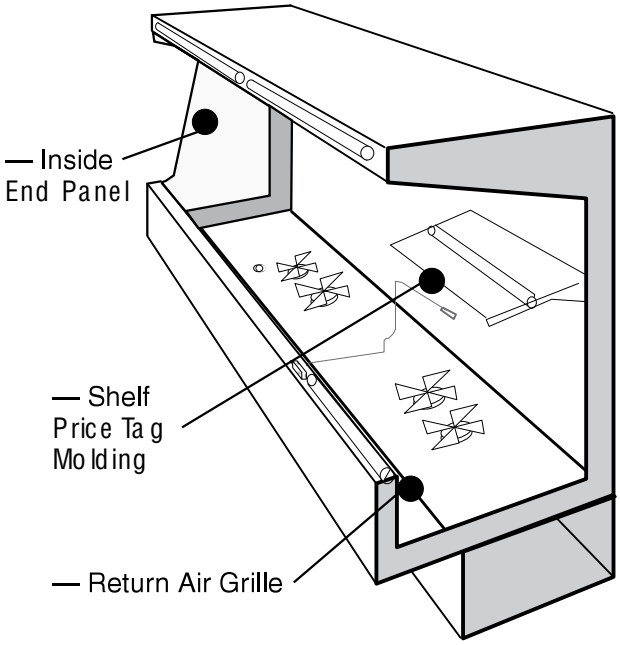
Thermometer — Hussmann Part TM.491 1251

Suggested Mounting Locations in Single Deck Glass Front Merchandisers





Flexible Plastic Fits in Price Tag Moldings



Suggested Mounting Locations in Multi-deck Merchandisers

Hussmann P/N 0429971_C 10/2007

Important – Please read!

This thermometer is provided in response to United States Food and Drug Administration (US FDA) Food Code [http://www.fda.gov/] and National Sanitation Foundation (NSF / ANSI) Standard 7 [http://www.nsf.org/]

Each installation will be different depending on how the unit is stocked, shopping patterns in the department and ambient conditions of the store. The suggested locations provided herein are possible locations. It is the responsibility of the purchaser / user to determine the location within the food storage area of the unit that best meets the code requirements above.

The thermometer may need to be moved several times to find the warmest location. Mounting options include flexible plastic for price tag molding application, magnet applied to back of flexible plastic for steel end wall, and double stick tape. Tape must not be exposed after installation.

Questions about either code should be addressed to local agencies or other appropriate officials.

Keep with merchandiser

or give to store manager.

DO NOT DESTROY .

MAINTENANCE

CARE AND CLEANING

Long life and satisfactory performance of any equipment is dependent upon the care it receives. To ensure long life, proper sanitation and minimum maintenance costs, these merchandisers should be thoroughly cleaned, all debris removed and the interiors washed down frequently.

Fan Plenum
To facilitate cleaning, the fan plenum is hinged. After cleaning be sure the plenum is properly
lowered into position **OR PRODUCT LOSS WILL RESULT** due to improper refrigeration.

Exterior Surfaces
The exterior surfaces should be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. **NEVER USE ABRASIVE CLEANSERS OR SCOURING PADS.**

Interior Surfaces
The interior surfaces may be cleaned with most domestic detergents, ammonia based cleaners and sanitizing solutions with no harm to the surface.

DO NOT USE:

- Abrasive cleansers and scouring pads, as these will mar the finish.
- A hose on lighted shelves or submerge the shelves in water.
- Solvent, oil or acidic based cleaners on any interior surfaces.
- Ammonia-based cleaners on acrylic parts.
- Coarse paper towels on coated glass.

⚠ WARNING

Prevent injury.
ALWAYS SHUT POWER OFF
during cleaning process.

DO:

- Remove the product and all loose debris to avoid clogging the waste outlet.
- Store product in a refrigerated area such as a freezer. Remove only as much product as can be taken to the freezer in a timely manner.
- First turn off refrigeration, then disconnect electrical power.
- Thoroughly clean all surfaces with soap and hot water.
  DO NOT USE STEAM OR HIGH WATER PRESSURE HOSES TO WASH THE INTERIOR. THESE WILL DESTROY THE MERCHANDISERS' SEALING CAUSING LEAKS AND POOR PERFORMANCE.
- Lift hinged fan plenum for cleaning. Hook chain in rear panel to secure plenum during cleaning. BE SURE TO REPOSITION THE FAN PLENUM AFTER CLEANING MERCHANDISER.
- Take care to minimize direct contact between fan motors and cleaning or rinse water.
- Rinse with hot water, but do NOT flood. **NEVER INTRODUCE WATER FASTER THAN THE WASTE OUTLET CAN REMOVE IT.**
- Allow merchandisers to dry before resuming operation.
- After cleaning is completed, turn on power and refrigerant to the merchandiser.
- Verify that merchandiser is working properly.

NOTICE

Product will be degraded and may spoil if allowed to sit in a non-refrigerated area.

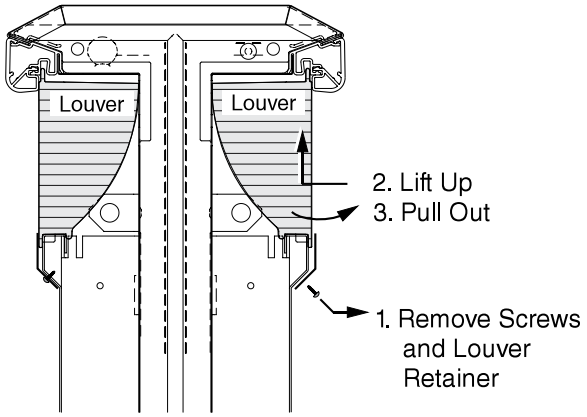
⚠ CAUTION

Do NOT use HOT water on COLD glass surfaces. This can cause the glass to shatter and could result in personal injury. Allow glass fronts, ends, and service doors to warm before applying hot water.

CLEANING AIRFLOW LOUVERS

Louvers should be cleaned at least every six months. Dirty louvers adversely affect model performance.

1. Remove screws and louver retainer.
2. Lift the louver, then rotate the bottom out.
3. Clean the louvers with soap and water. Dry thoroughly.
4. When completely dry, re-install louvers and retainer.



CLEANING WIRE RACKS, PANS, AND INTERIOR PANELS

With the louver assembly removed, all interior wire racks, supports and drip pans may be lifted out without tools. Refer to illustration on next page.

Begin by lifting out the display racks and front and back display rack supports. Remove display pans, beginning from the left. Pans overlap when properly installed.

Carefully lift up glass package guard to clear clips attached to front panel. It is not necessary to remove clips from panel. Lift out return air grilles. The glass may be cleaned with most domestic detergents, ammonia-based cleaners and sanitizing solutions with no harm to the surface. **NEVER USE ABRASIVE CLEANSERS OR SCOURING PADS.**

Front and rear internal panels rest on interior panel supports. Panels and supports lift out.

Reinstall in reverse order.

CLEANING STAINLESS STEEL RAILS

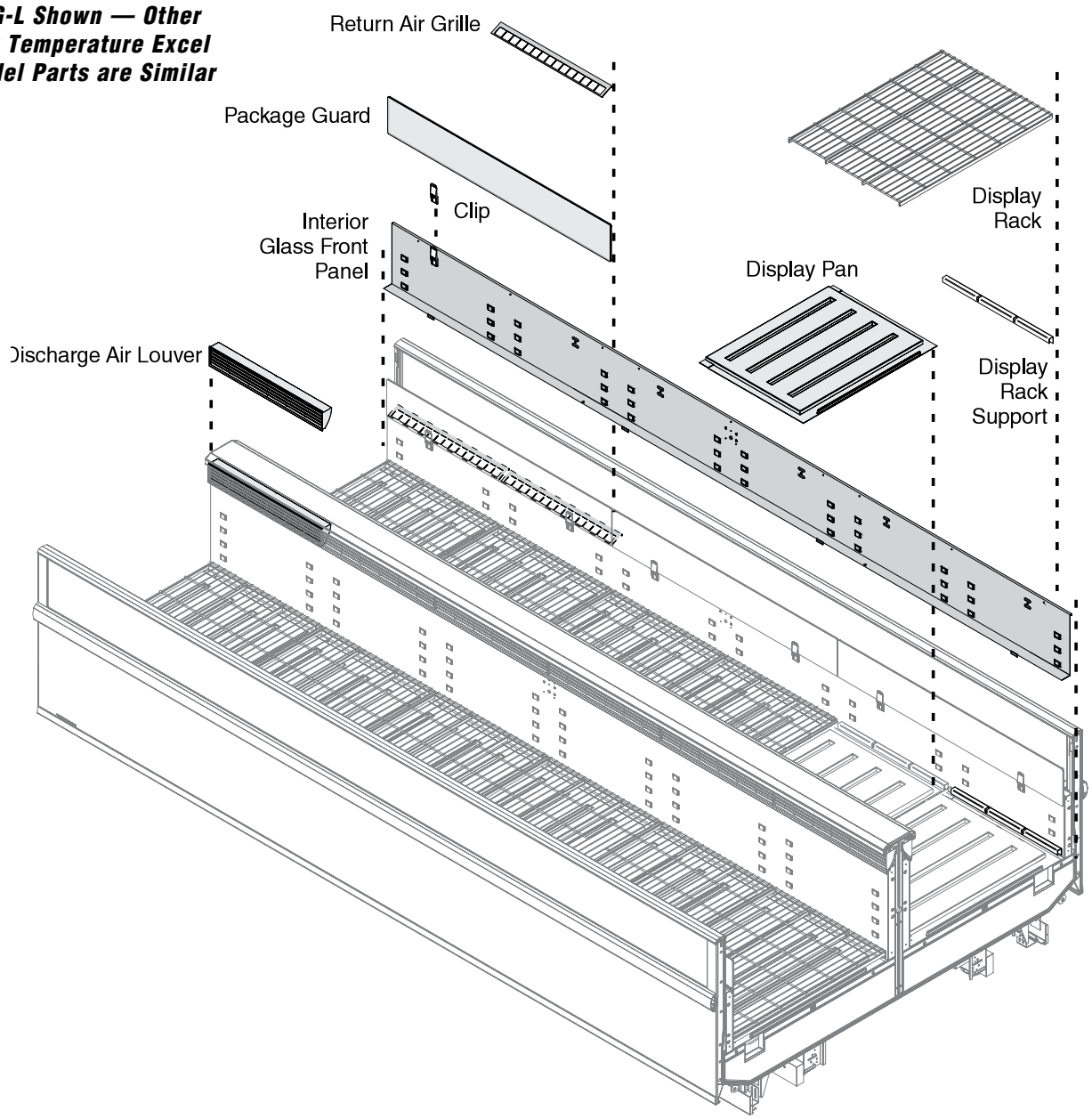
Use non-abrasive cleaning materials, and always polish with grain of the steel. Use warm water or add a mild detergent to the water and apply with a cloth. Always wipe rails dry after wetting.

Use alkaline chlorinated or non-chlorine containing cleaners such as window cleaners and mild detergents. Do not use cleaners containing salts as this may cause pitting and rusting of the stainless steel finish. Do not use bleach.

Clean frequently to avoid build-up of hard, stubborn stains. A stainless steel cleaning solution may be used periodically to minimize scratching and remove stains.

Rinse and wipe dry immediately after cleaning. Never use hydrochloric acid (muriatic acid) on stainless steel.

FWG-L Shown — Other Low Temperature Excel Model Parts are Similar



CLEANING COILS

NEVER USE SHARP OBJECTS AROUND COILS. **Use a soft brush or vacuum brush to clean debris from coils.** ***Do not puncture coils!*** Do not bend fins. Contact an authorized service technician if a coil is punctured, cracked, or otherwise damaged.

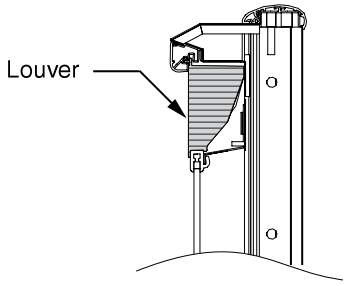
ICE in or on the coil indicates the refrigeration and defrost cycle is not operating properly. Contact an authorized service technician to determine the cause of icing, and to make adjustments as necessary. To maintain product integrity, move all product to a cooler until the unit has returned to normal operating temperatures.

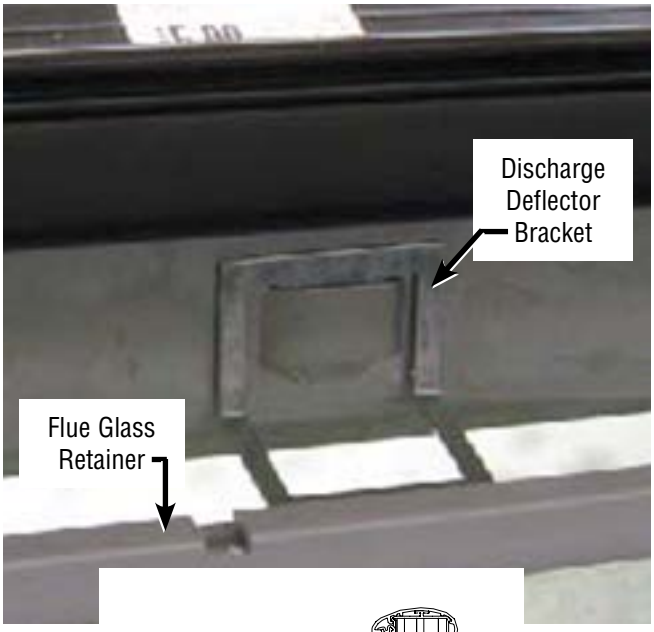
REMOVING REAR FLUE GLASS FOR CLEANING (FIG-L & FNG-L)

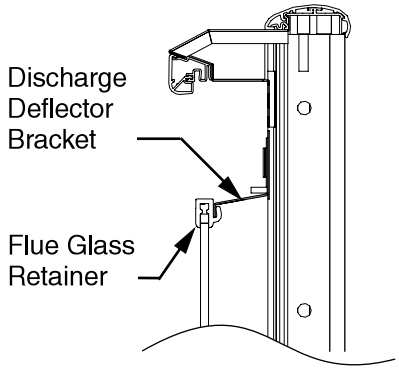
1. Remove louvers, then remove the discharge deflector brackets. The flue glass (with retainer) may then be lifted out.

2. Remove interior panels to facilitate thorough cleaning.

3. Reinstall in reverse order.







CLEANING SLIDING GLASS LIDS

Glass and sliding track should be cleaned weekly. Clean tracks with a soft cloth and a mild detergent. Never use high pressure water, abrasive cleaners, solvents, ammonia, chloric acid, or oil-based products. Clean glass with a soft cloth and non-ammonia glass cleaner.

REMOVING SCRATCHES FROM BUMPER

Most scratches and dings can be removed using the following procedure.

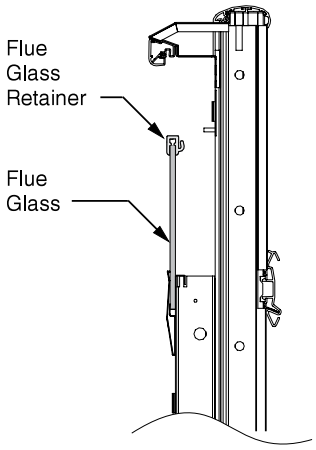
1. Use steel wool to smooth out the surface area of the bumper or top rail.

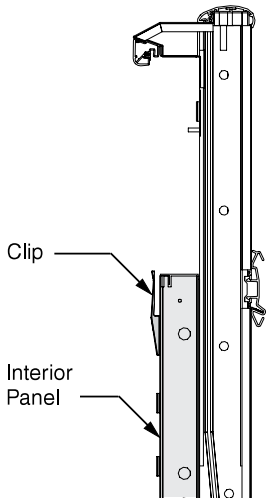
2. Clean area.

3. Apply vinyl or car wax and polish surface for a smooth glossy finish.

CLEANING UNDER MERCHANDISERS

Remove splashguards not sealed to floor. Use a vacuum with a long wand attachment to remove accumulated dust and debris from under the merchandiser.





GENERAL

Refer to the case data sheet for each model to identify the general location of components.

⚠ WARNING

— LOCK OUT / TAG OUT —

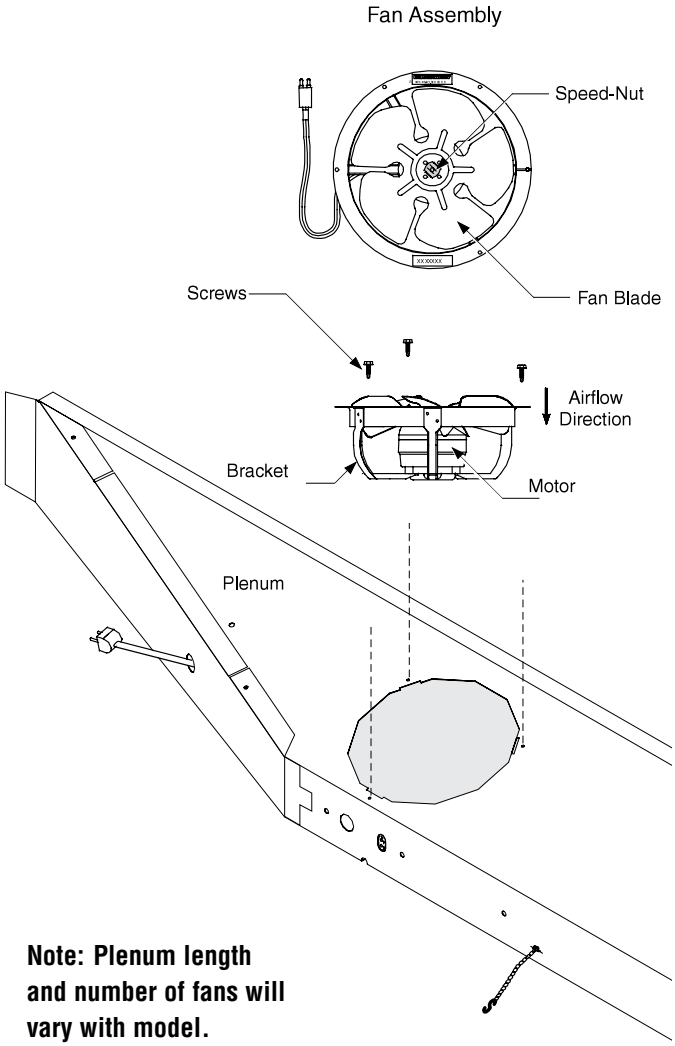
To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

REPLACING FAN MOTORS AND BLADES

See cross section for location of evaporator fans. Should it ever be necessary to service or replace the fan motors or blades be certain that the fan blades are re-installed correctly.

For access to evaporator fans:

1. Turn off power.
2. Remove wire racks and display pans from the compartment being serviced.
3. **Disconnect fan from wiring harness.**
4. Remove fan blade.
5. Remove screws holding fan motor/bracket assembly to plenum and remove assembly.
6. Replace fan motor/bracket assembly and reinstall screws.
7. Reinstall fan blade.



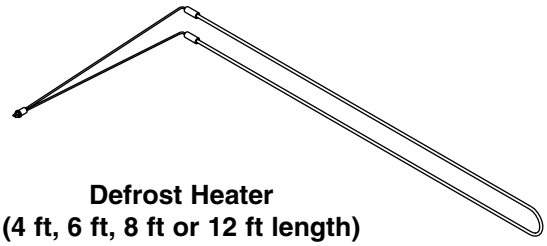
Note: Plenum length and number of fans will vary with model.

8. Reconnect fan to wiring harness.
9. Turn on power.
10. Verify that motor is working and blade is turning in the correct direction.
11. Replace display pans and wire racks. Bring merchandiser to operating temperature before restocking.

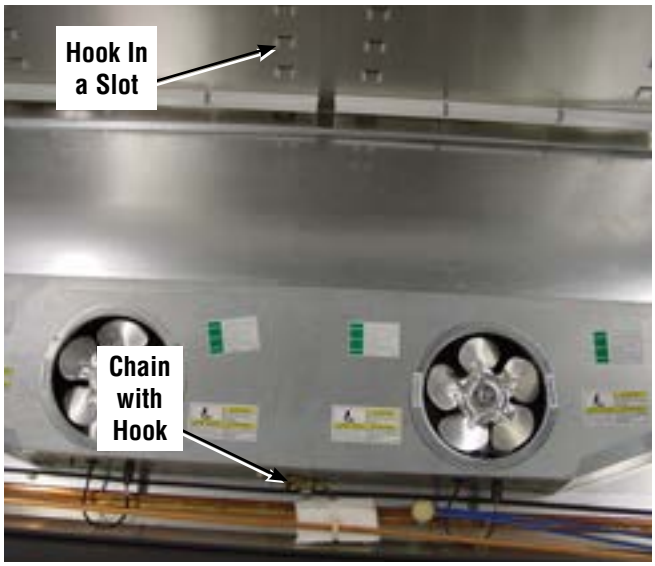
REPLACING ELECTRIC DEFROST HEATER

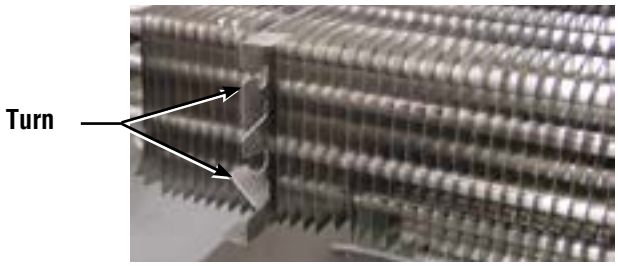
These heaters are installed at the front of the coils. They may be accessed by lifting the fan plenums. To replace:

1. Turn off power to merchandiser.
2. Remove wire racks and display pans from the compartment being serviced.
3. Hinge up and fasten the fan plenum to the interior back panel with chain and hook provided.
4. Unplug the heater from the heater harness.
5. Remove the heater from the face of the coil by rotating the support tab far enough to free the heater element.
6. Position the new heater and rotate the support tab back to the original position.
7. Reconnect heater to wiring harness.
8. Lower the fan plenum to operating position.
9. Reconnect power.
10. Verify heater is working properly.
11. Replace display pans and wire racks. Bring merchandiser to operating temperature before restocking.



Defrost Heater
(4 ft, 6 ft, 8 ft or 12 ft length)





⚠ WARNING

— LOCK OUT / TAG OUT —

To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

REMOVING GLASS LIDS

There may be instances when the glass lid frames need to be removed, such as prior to replacing a damaged rail heater or other major internal components.

To remove the frames:

1. Remove the glass panes from the lid frames, and set them aside. Always wear eye protection, long pants and gloves when handling glass.

2. See Page 4-17 and 4-18 and follow the steps to remove the joints from the lid frames that are joined together.

3. Use a flat putty knife or plastic dry wall spreader to pry the frame from the top rails of the merchandiser.

4. After repair work is completed, refer to Section 4 of this manual to reassembly the lids. The two-sided tape will need to be replaced.

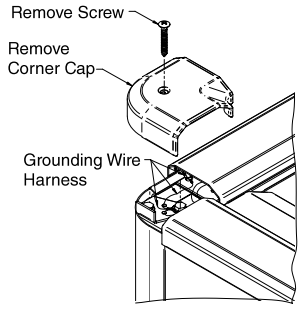
REPLACING HAND RAIL HEATER (SOLID FRONTS)

To replace the heater:

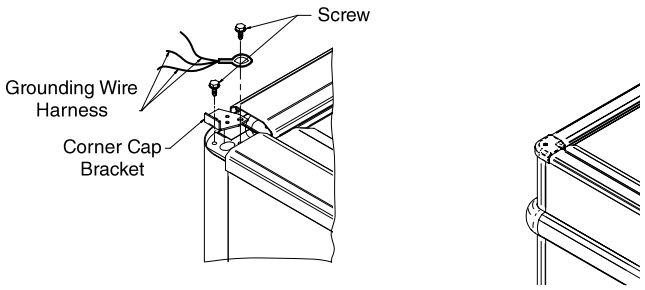
1. Turn OFF the power to the merchandiser.

2. Remove return grilles, package guard and interior panel as needed from the compartment being serviced.

3. Remove screw and corner cap.

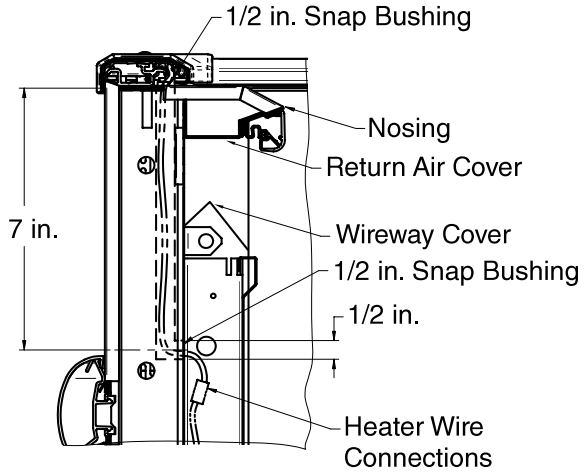


4. Remove screws, grounding wire harness and corner cap bracket.



5. Remove hand rails, hand rail retainers and heater from hand rail retainers.

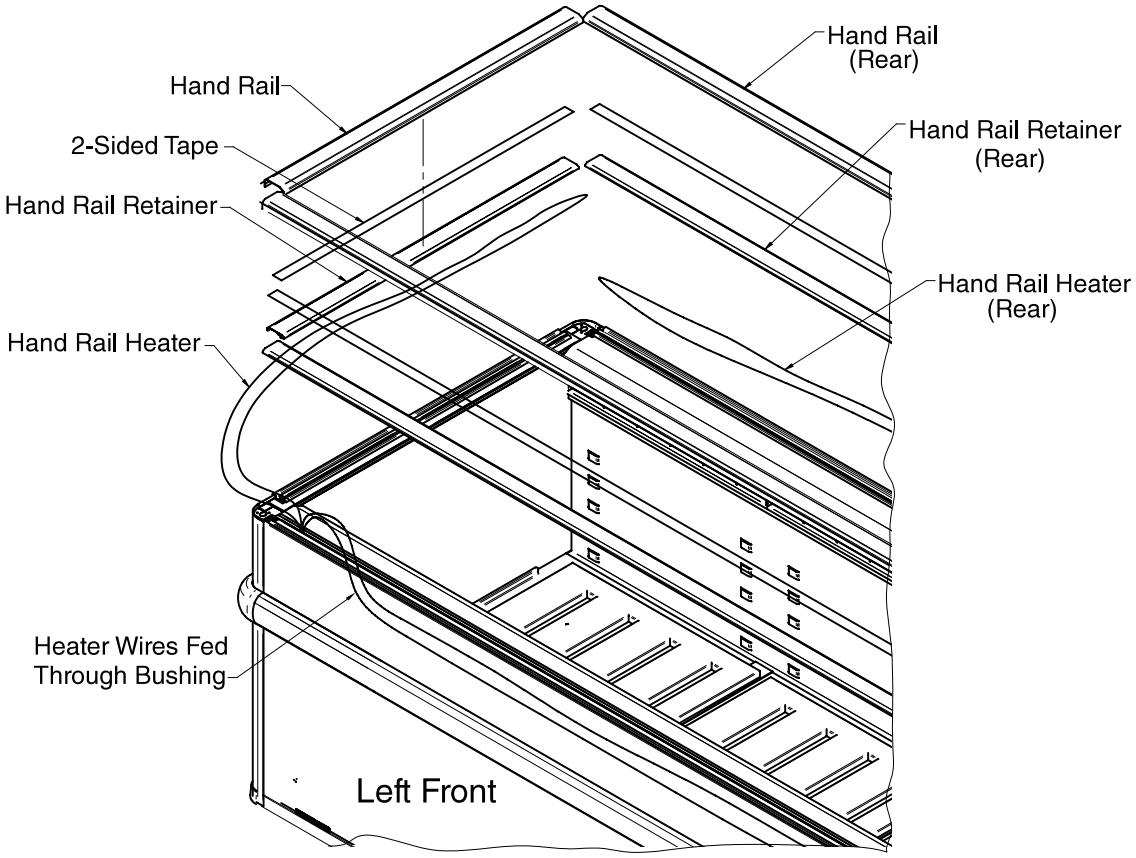
6. Remove wireway cover.



⚠ WARNING

— LOCK OUT / TAG OUT —

To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

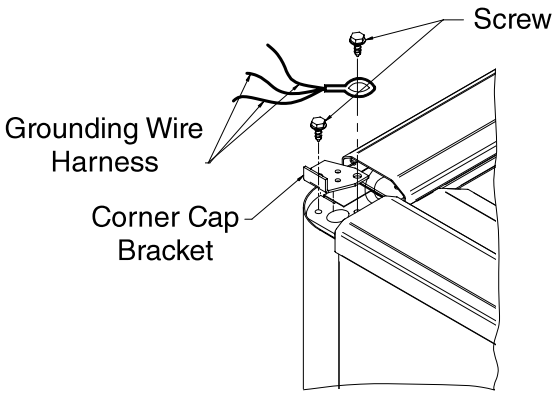


7. Disconnect, and remove hand rail heater from wireway.

8. Replace heater connections and re-route new heater onto hand rail retainers.

9. Clean rail surfaces thoroughly, then install new hand rail heater.

10. Reinstall parts in reverse order. Any damaged parts must be replaced.



Metal top rail must be properly grounded.

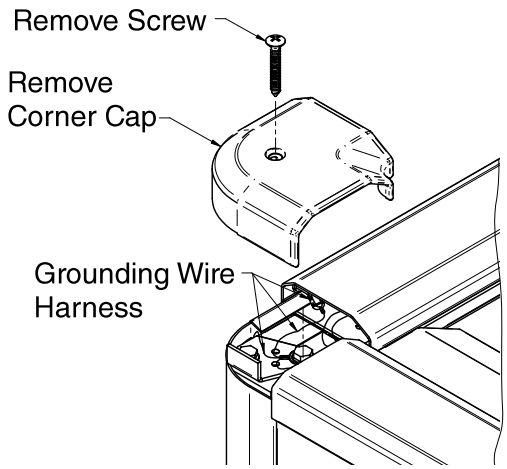
REPLACING HAND RAIL HEATER (GLASS FRONTS)

To replace the heater:

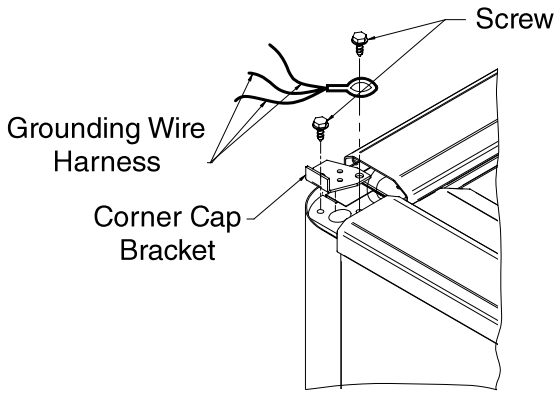
1. Turn OFF the power to the merchandiser.
2. Remove wire racks, display pans, return grilles, package guard and interior panel from the compartment being serviced.

Hand rail heater connections are located in left front corner of merchandiser (near serial plate). FWEG-L heater connections are at right rear corner of merchandiser.

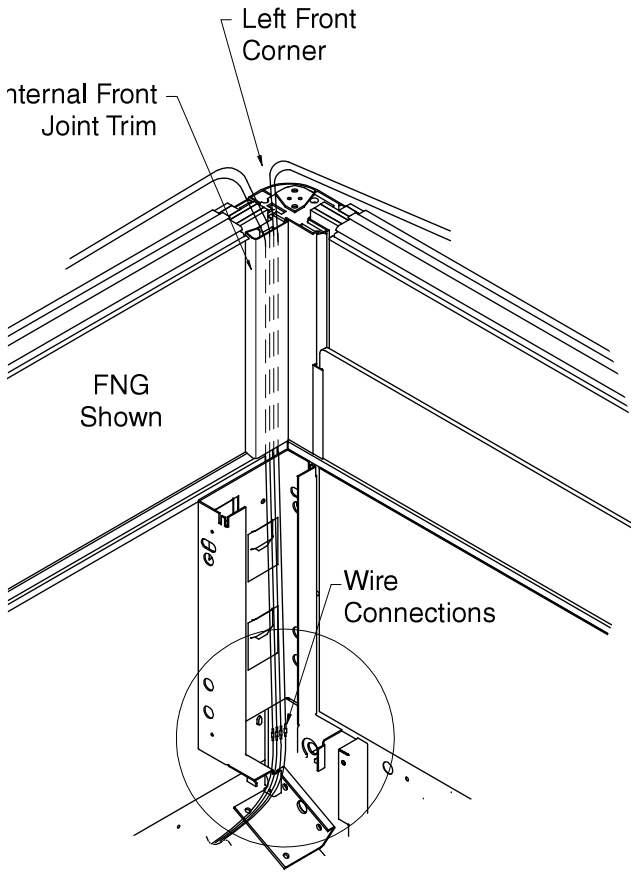
3. Remove screw and corner cap.

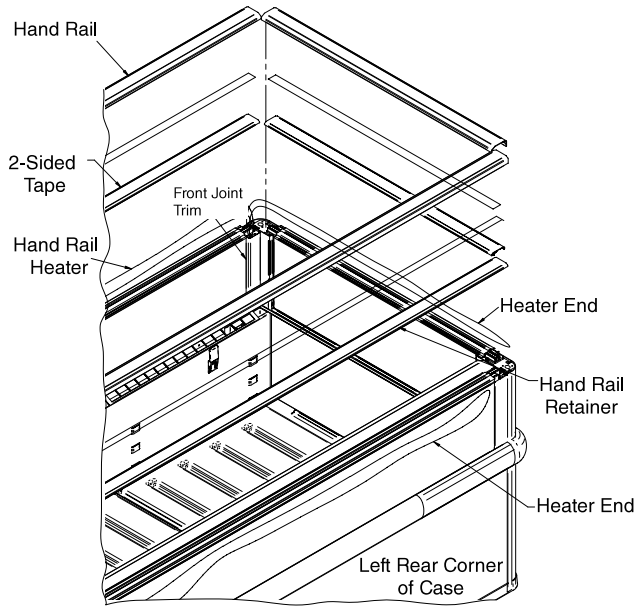


4. Remove screws, grounding wire harness and remove corner cap bracket.

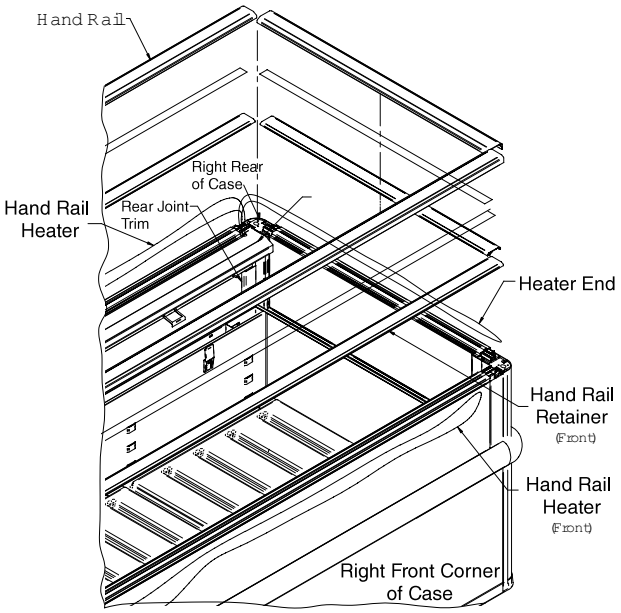


5. Remove hand rails, hand rail retainers and heater from hand rail retainers.
6. Remove interior joint trim and wireway cover.





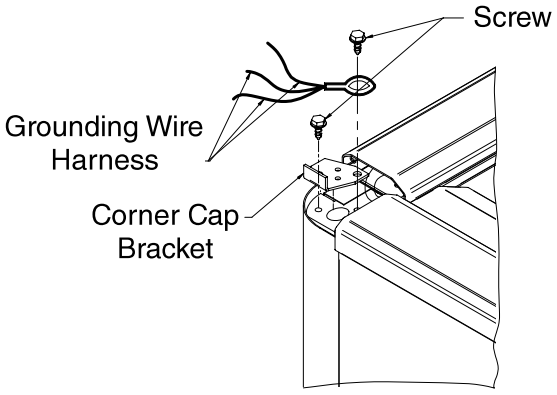
Hand Rail Heater Connections are Located in Left Front Corner of Merchandiser (Near Serial Plate)



FWEG-L Heater Connections are at Right Rear Corner of Merchandiser

7. Disconnect and remove hand rail heater from wireway.

8. Replace heater connections and re-route new heater through internal front joint trim and onto hand rail retainers as shown.



Metal top rail must be properly grounded.

9. Clean rail surfaces thoroughly, then install new hand rail heater.

10. Reinstall parts in reverse order. Any damaged parts must be replaced.

⚠ WARNING

— LOCK OUT / TAG OUT —

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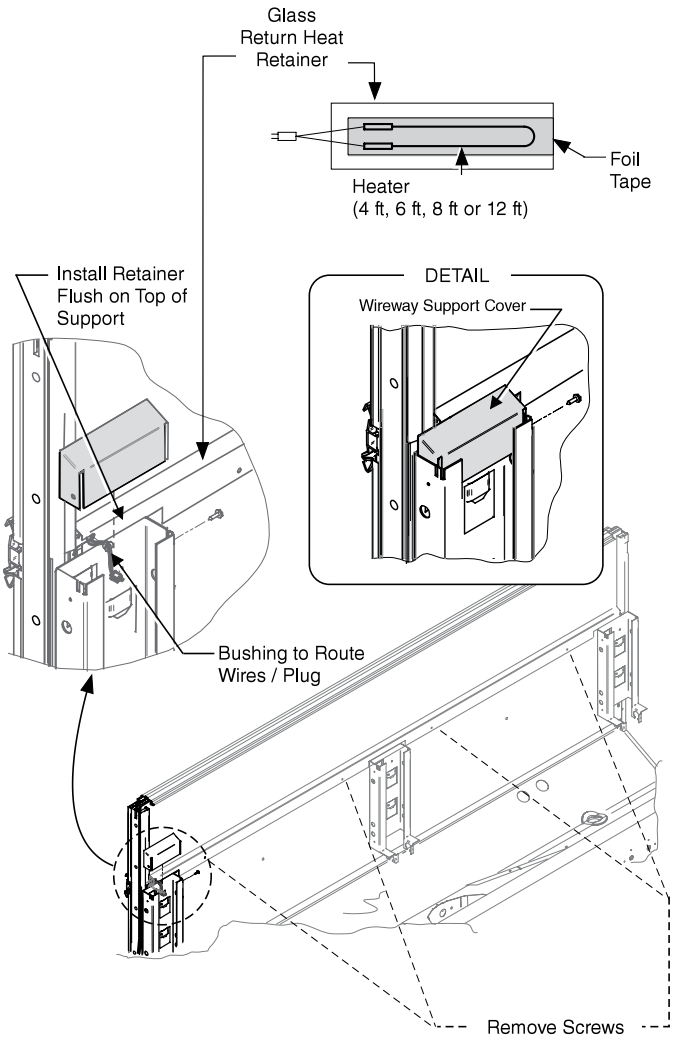
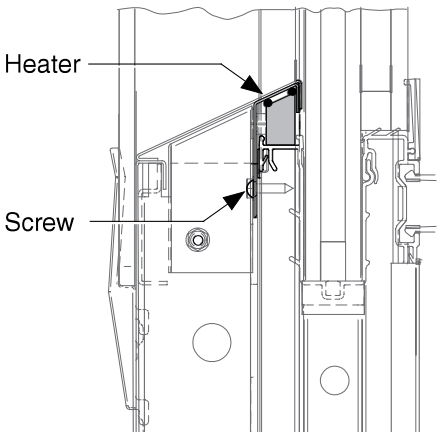
REPLACING RETURN AIR HEATER

To replace the heater:

1. Turn OFF the power to the merchandiser.
2. Remove return grilles, package guard and interior panel from the compartment being serviced.
3. Remove screw and wireway cover.
4. Unplug existing return air heater. The return air heater plug is routed on RH side from front of merchandiser (end opposite the main serial plate).
5. Remove screws and retainer.
6. Remove the foil tape and heater from the retainer.
7. Clean thoroughly. Remove all adhesive and residue. Wipe surface with alcohol to ensure new heater tape will adhere properly.
8. Install new heater and tape in retainer as shown.
9. Reinstall retainer, routing plug to jumper harness; plug in.
10. Reinstall wireway cover, interior panel, package guard, return air grilles, display pans and wire racks.
11. Turn on power to merchandiser and check for proper operation.





⚠ WARNING

— LOCK OUT / TAG OUT —

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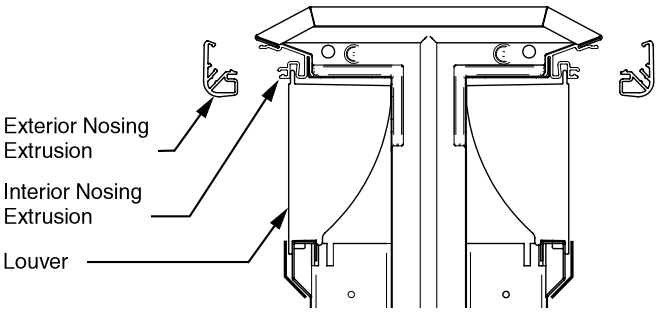
REPLACING NOSING ANTI-SWEAT HEATER

To replace the heater:

1. Turn OFF the power to the merchandiser.

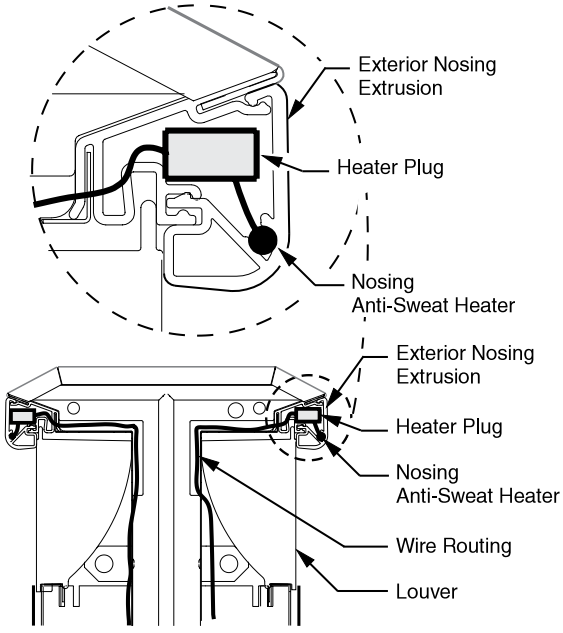
2. Remove a louver from one end. It doesn't matter which end.

3. Remove exterior nosing extrusion by placing fingers at the back end of the extrusion and pulling forward until it separates from the interior nosing extrusion.



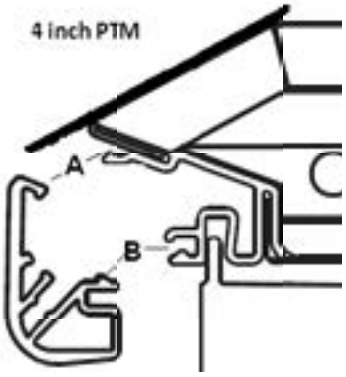
4. Unplug and remove existing anti-sweat heater. The anti-sweat heater plug is routed on RH side from front of merchandiser (end opposite the main serial plate).

5. Install new anti-sweat heater as shown and route plug to jumper harness; plug in.

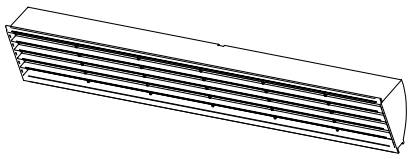


6. Do the following to reattach exterior nosing extrusion to interior nosing extrusion:
   There are two joining locations "A" and "B" that must be fastened to the interior nosing extrusion. "A" can be positioned in place by hand. Use a rubber mallet to snap "B" into place at interior extrusion. A light to medium tap is all that is required.

   NOTE: It is easier to reinstall plastic extrusion if wide PTM is removed.



7. Replace discharge air louver, retainers and fasteners.



8. Turn on power to merchandiser, and check for proper operation.

⚠ WARNING

— LOCK OUT / TAG OUT —

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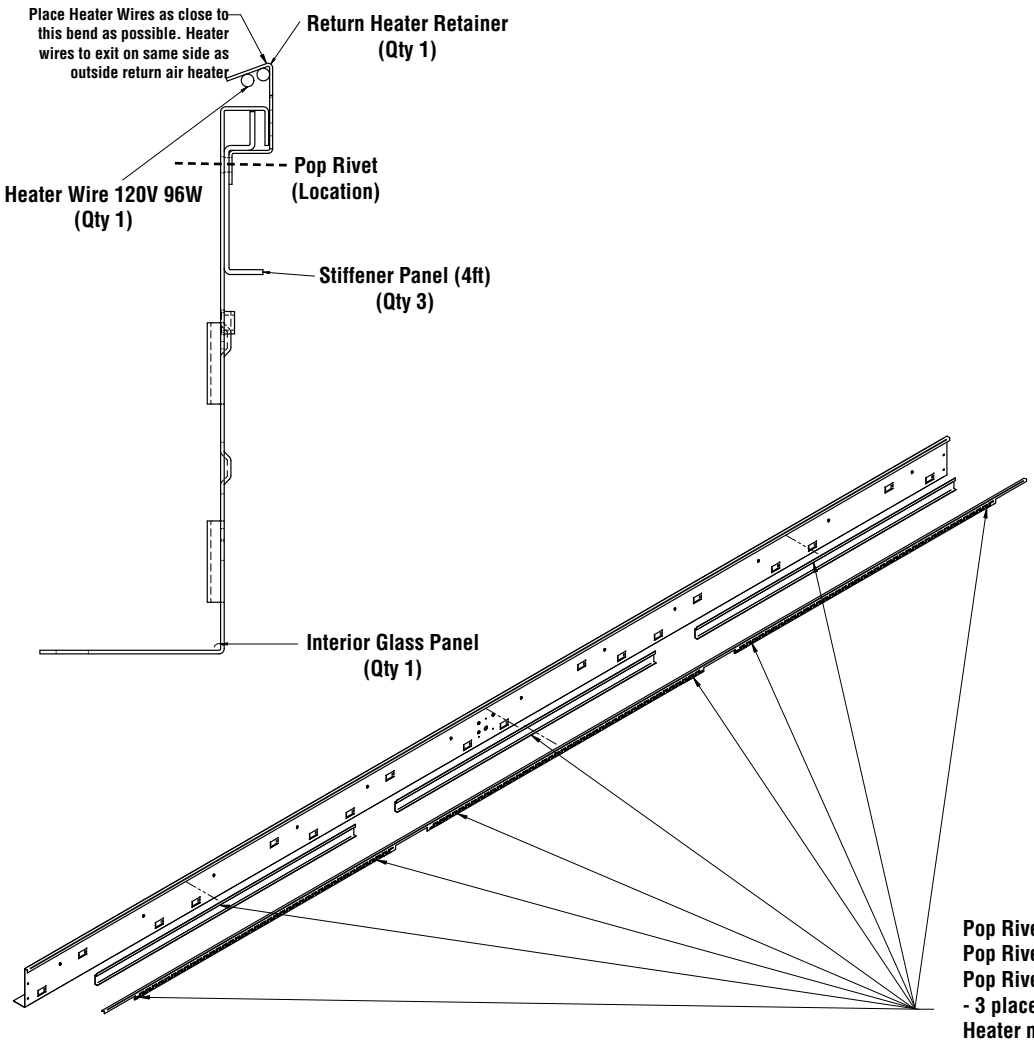
REPLACING PRODUCT SIDE HEATER (FWGH & FWEGH ONLY)

To replace the heater:

1. Turn OFF the power to the merchandiser.
2. Remove return grilles, package guard and interior panel from the compartment being serviced.
3. Remove the pop rivets. Rivets will be drilled out. Unplug existing product side heater. Heater is routed on RH side from front of merchandiser (end opposite the main serial plate).
4. Clean thoroughly. Remove all adhesive and residue. Wipe surface with alcohol to ensure new heater tape will adhere properly.
5. Install new heater and tape in retainer as shown.
6. Reinstall retainer, routing plug to jumper harness; plug in.
7. Reinstall wireway cover, interior panel, package guard, return air grilles, display pans and wire racks.
8. Turn on power to merchandiser and check for proper operation.


Place Heater Wires as close to this bend as possible. Heater wires to exit on same side as outside return air heater
Return Heater Retainer (Qty 1)
Pop Rivet (Location)
Heater Wire 120V 96W (Qty 1)
Stiffener Panel (4ft) (Qty 3)
Interior Glass Panel (Qty 1)
Pop Rivet .125 diameter
Pop Rivet through all 3 parts - 6 places
Pop Rivet through panel and stiffener - 3 places
Heater not shown in this view

REPLACING DRIP PAN HEATER

1. Turn off power to the merchandiser.

2. Remove wire racks and display pans from the compartment being serviced.

3. Unplug the heater from the heater harness.

4. Remove heater lead wire from interior panel supports.

5. Remove all screws and clips, then remove the heater.

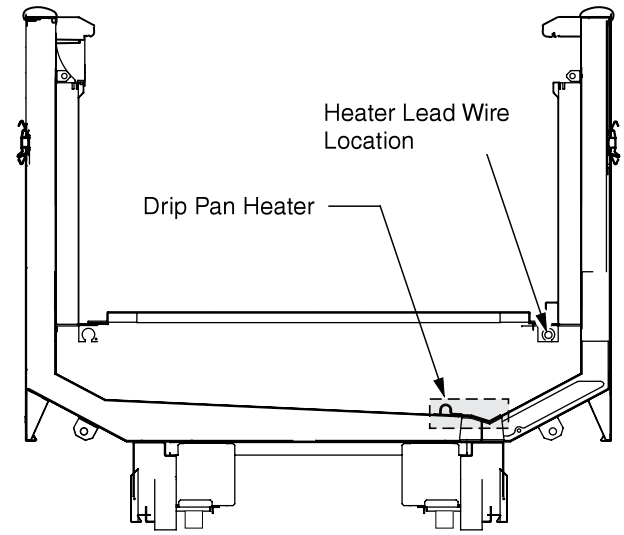
6. Position the new heater. Apply new acrylic sealer to the underside of clips. Carefully ***reinstall clips in their original position***.

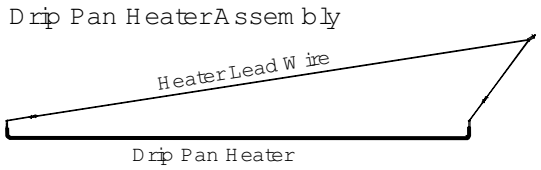
7. Route heater lead wire through the interior panel supports.

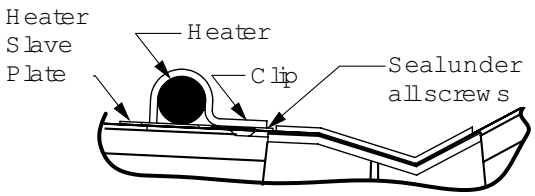
8. Reconnect harness.

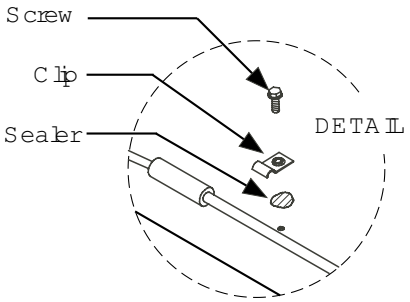
9. Turn on power to merchandiser and check for proper operation.

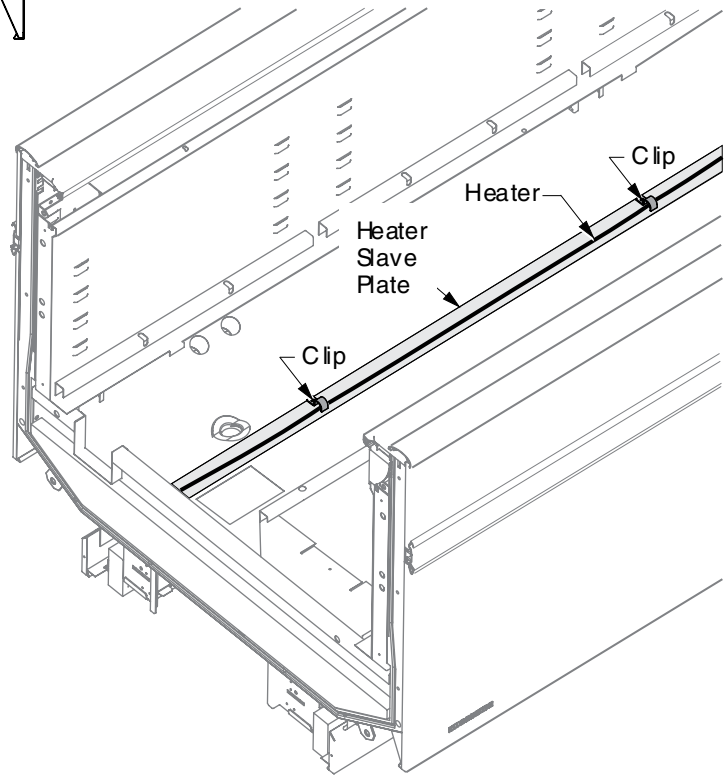
10. Reinstall display pans and wire racks.







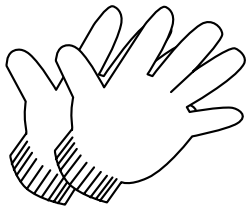




REPLACING DISCHARGE THERMOPANE GLASS ASSEMBLY (FNGL and FIGL)

Requires TWO (2) people.

Always use gloves when handling glass.



Always Use Gloves
When Handling Glass!!

1. Turn off power to merchandiser.

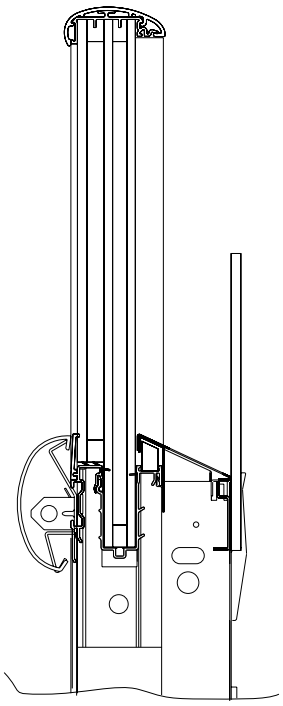
2. Remove glass lids and frame assembly, louvers, package guards, discharge rear deflector module and hand rail. (Hand rail removal is shown on Page 6-9.)

3. Disconnect glass pane heater lead wires from the wiring junctions.

4. With one person standing at each end of glass, lift the thermopane glass assembly straight up to remove it from its retainer channel and the end posts.

5. To install glass, have one person hold each end of the thermopane glass assembly and carefully lower it into the retainer channel and end posts.

NOTE: It may be necessary to use a wide, thin tool (such as a putty knife) to keep trim from obstructing glass positioning.



6. Reconnect glass pane heater lead wires.

7. Re-install hand rail, discharge rear deflector, package guards, louvers, and re-install frame assembly.

8. Turn on power. Verify glass lids are sliding properly. Verify that heater is working properly.

⚠ WARNING

— LOCK OUT / TAG OUT —

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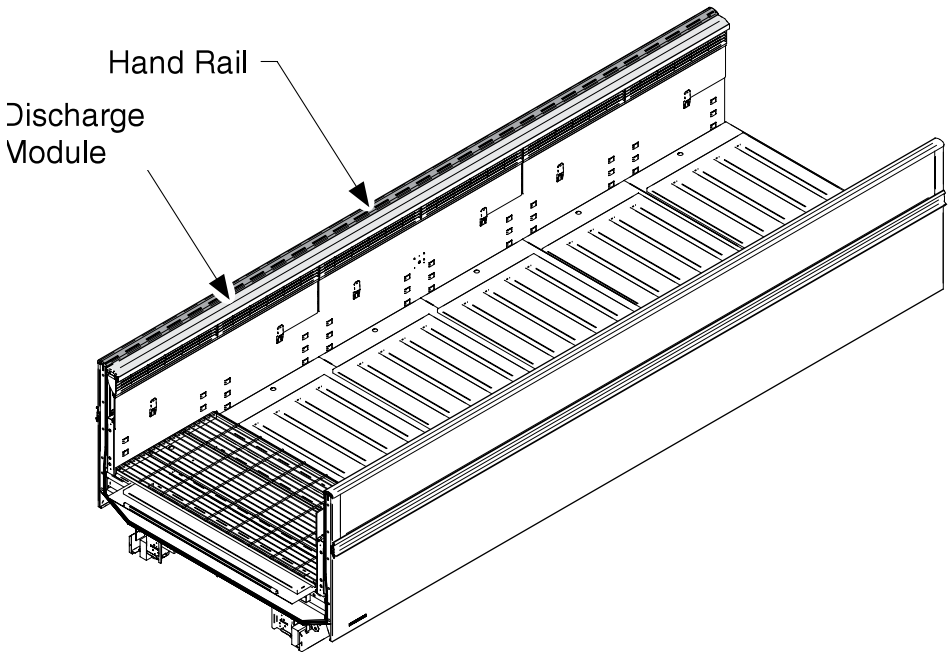
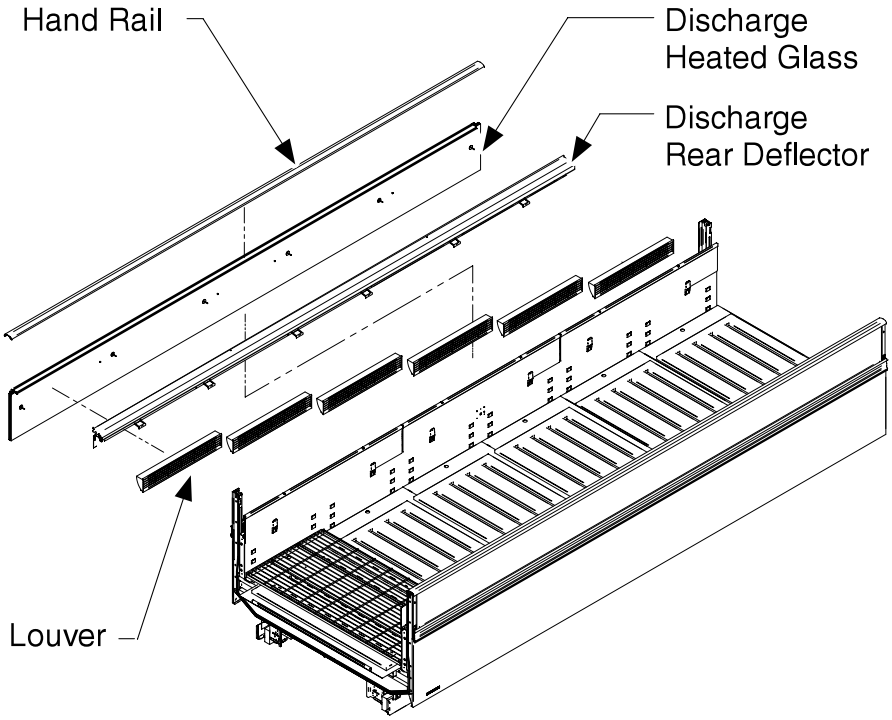
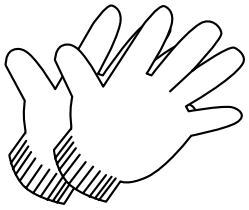

Hand Rail
Discharge
Module


Hand Rail
Discharge
Heated Glass
Discharge
Rear Deflector
Louver

REPLACING RETURN THERMOPANE GLASS ASSEMBLY

Requires TWO (2) people.



⚠ WARNING

— LOCK OUT / TAG OUT —

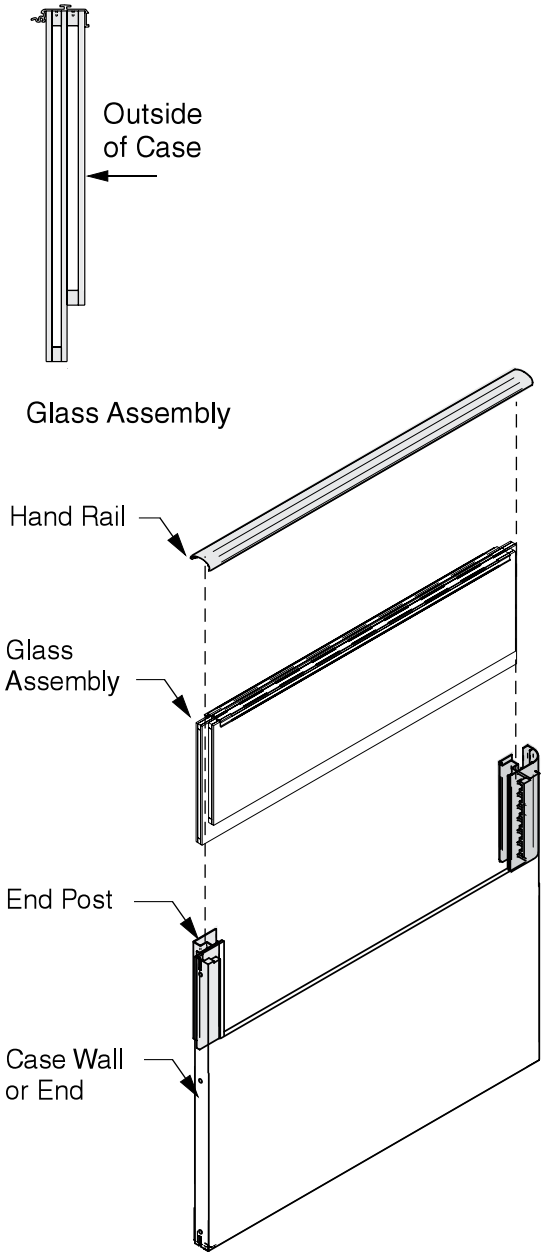
To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.

Always use gloves when handling glass.

1. Turn off power to merchandiser.
2. Remove glass lids and frame assembly. Remove hand rail.
3. Disconnect glass pane heater lead wires from the wiring junctions.
4. With one person standing at each end of the glass, lift the thermopane glass assembly straight up to remove it from its retainer channel and end posts.
5. To install glass, have one person hold each end of the thermopane glass assembly and carefully lower it into the retainer channel and end-posts.

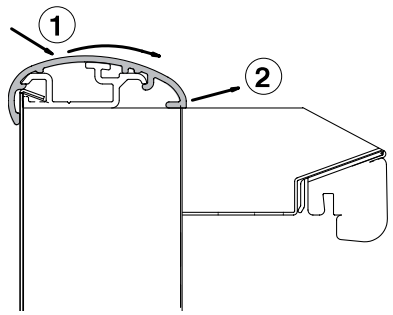
Note: It may be necessary to use a wide thin tool (such as a putty knife) to keep trim from obstructing glass positioning. Refer to illustration on page 6-6.

6. Reconnect glass pane heater lead wires.
7. Replace hand rail. Re-install frame assembly and glass lids.
8. Turn on power. Verify glass lids are sliding properly. Verify the heater is working properly.

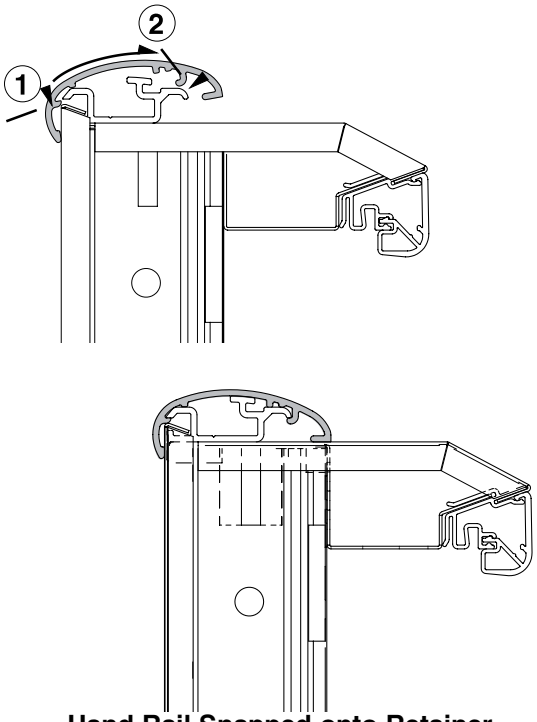


REPLACING HAND RAIL

Beginning at one end, remove the hand rail by pressing down, (1), and back, (2), to release the back corner from its retainer (refer to the following illustration). Work along the back (inside) until the full length is free. Rotate the hand rail out to release the front edge.



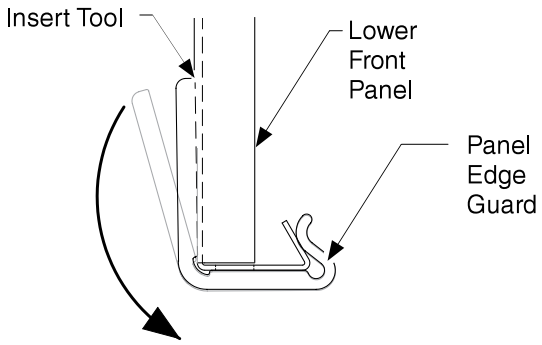
To reinstall, catch the front edge of the hand rail retainer with the inside front of the hand rail as shown in the following illustration, (1). Rotate the hand rail in toward the case and press down, (2), until back of hand rail snaps over back of retainer.



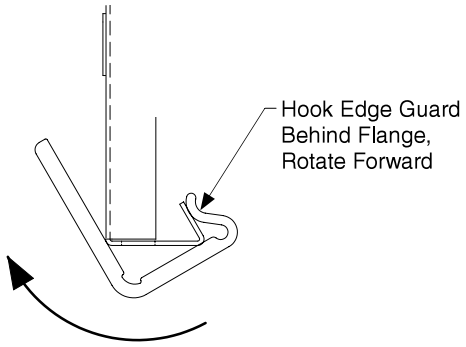
Hand Rail Snapped onto Retainer

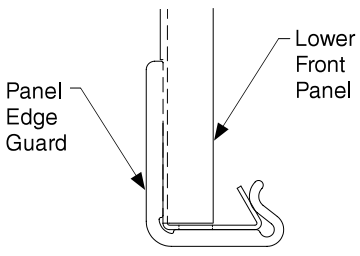
REPLACING PANEL EDGE GUARD

Beginning at one end of the edge guard, insert a thin wide **plastic** tool (such as a putty knife) to separate the guard from the panel until a finger can be inserted to rotate the guard off the panel. Work the length of the panel.
To reinstall, hook the curved leg of the edge



guard behind the flange on the lower front panel. Rotate the edge guard forward to snap onto the lower front panel. Refer to the following illustrations.





Edge Guard Snapped onto Lower Front Panel

REPAIRING ALUMINUM COIL

The aluminum coils used in Hussmann merchandisers may be easily repaired in the field. Materials are available from local refrigeration wholesalers.

Hussmann recommends the following solders and technique:

Solders

Aladdin Welding Products Inc.
P.O. Box 7188
1300 Burton St.
Grand Rapids, MI 49507
Phone: 1-800-645-3413
Fax: 1-800-645-3414

X-Ergon
1570 E. Northgate
P.O. Box 2102
Irving, TX 75062
Phone: 1-800-527-9916

NOTE:
Hussmann Aluminum melts at ..1125°F
Aladdin 3-in-1 rod at .....732°F
X-Ergon Acid core at .....455°F

Technique:

1. Locate Leak.
2. REMOVE ALL PRESSURE.
3. Brush area UNDER HEAT.
4. Use PRESTOLITE TORCH ONLY. Number 6 tip.
5. Maintain separate set of stainless steel brushes, and USE ONLY ON ALUMINUM.
6. Tin surface around area.
7. Brush tinned surface UNDER HEAT, thoroughly filling the open pores around leak.
8. Repair leak. Let aluminum melt solder, NOT the torch.
9. Don't repair for looks. Go for thickness.
10. Perform a leak check.
11. Wash with water.
12. Cover with a good flexible sealant.

NOTES:

HUSSMANN®

To obtain warranty information or other support, contact your Hussmann representative. Please include the model and serial number of the product.

Hussmann Corporation, Corporate Headquarters: Bridgeton, Missouri, U.S.A. 63044-2483 01 October 2012

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12999 St. Charles Rock Road
Bridgeton, MO 63044-2483
www.hussmann.com